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**Study on mainstream teachers' awareness of strategies to enhance social
interaction among children with autism in Czech Republic**

*This Dissertation is submitted in part-fulfillment of the M.A/Mgr. degree in
Special Education Needs of the Charles University in Praha, Czech Republic*

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Statement

I hereby declare that this thesis has been independently and completely composed by me, Asha Yadav, for submission for the Erasmus Mundus Master Program in Special Education Needs, 2007-2008, at Roehampton University (London, United Kingdom), Fontys University (Tilburg, The Netherlands), and Charles University (Prague, Czech Republic).

The reference cited in the thesis was acknowledged in the bibliography and the thesis has not been previously submitted for a higher degree.

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ABSTRACT

The purpose of the study was to survey mainstream teachers to examine their awareness of strategies, in support of encouraging social interaction among children with autism. In addition, mainstream and special education teachers' recommendations were also explored in relation to better execution of evidence-based classroom strategies. Furthermore, identified weaknesses and teachers' suggestions were used to recommend future training and staff development to enable mainstream teachers to provide the best possible programs for enhancement of social interaction among children with autism in inclusive educational setting.

The responses were gathered from 90 teachers from various cities in Czech Republic where 28 were regular teachers and 62 were special education teachers. Data was collected questionnaire. Regular teachers responses were more focused on to explore the awareness and knowledge of strategies to enhance social interaction among children with autism and special education teachers' responses were focused on recommendation for enhancing teachers' awareness and better implementation of strategies in the classroom.

The questionnaire was combination of close ended and open ended questions. Close ended questions were multiple choices. Questionnaire was divided into five sections that are A, B, C, D and E. Section A was designed to obtain demographic information. Section B, C, D and E were designed to explore four research questions on teachers' knowledge of autism, teachers' view on social interaction ability of children with autism, teachers' knowledge of classroom strategies to improve social interaction among children with autism and teachers' recommendation to implement classroom strategies respectively.

The results of the study indicate that there is no marked deficits in regular teacher's knowledge of autism spectrum disorder and social interaction in children with autism. However, there is severe lack of knowledge of strategies to enhance social interaction by children with autism. Therefore, there is a need for further training because teachers feel lack of experience, knowledge and information is a major obstacle for implementation of research-based strategies in classroom setting.

Key words: Autism spectrum disorder, social interaction, children with autism

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CHAPTER ONE

INTRODUCTION

"The truth is, given my disability, I had no choice. Autism takes control of a child; it holds you prisoner. No one, unless you've experienced it, can understand the frustration of not being able to join in a conversation. I guess people thought I was retarded and had no thoughts or feelings that mattered.

....I was a lonely boy, lost in a world that gave up on human beings like me because they could not respond to talk."

(Attfield, 2002, p. 1)

1.1 Introduction

The first chapter is on introduction and discusses the following issues: the background and motivation of this study, followed by the section reporting statement of the problem. Next section explains the aims and purpose of the study. It further explains the operational definition of terms. It is followed by context in which the study is carried and significance of the study. The final one provides the structure of this study report.

1.2 Background of the study

1.2.1 What is autism?

Autism is a severely incapacitating life long neurodevelopmental disorder that typically occurs in the first three years of life. "It causes impairment or disturbance in three main areas: social skills, communicative (verbal as well as non-verbal) skills and in their repetitive and restricted behaviours. Individual with autism may show abnormal responses to sensations. Any one or more of the senses may be affected. All these difficulties manifest themselves in behaviours i.e. abnormal ways of relating to people, objects and events in the environment" (Action for Autism, 2008, p.1).

Therefore, Autism is a spectrum disorder defined by wide variety of characteristics ranging from mild to severe. According to the American Psychiatric Association's DSM-IV manual, there are five diagnoses under spectrum disorder: autistic disorder, asperger's syndrome, pervasive developmental disorder, Rett's syndrome, and childhood disintegrative disorder.

1.2.2 Prevalence of autism

The number of children with autism spectrum disorders (ASDs) has risen over the past decade, but it is unclear whether the increase is due to change in diagnosis or to a true increase in cases (Centre for Disease Control and Prevention, 2000). It is difficult to measure incidence and prevalence rates for autism spectrum disorder. According to European Commission Health and Consumer Protection Directorate-General (2005, p.6) 'there is no central recording of ASD case in any European Union member state and there are very few epidemiological studies on ASD on which to make appropriated predictions' but definitely there is increase in the number of diagnosed cases of autism. The problem occurred from two main causes. First, there are many difficulties in diagnosing people with autism. There is no medical test that can determine in an absolute way whether or not a person has autism. Diagnostic criteria are in terms of descriptions of behaviour. Second, diagnostic terms tend to be used in different ways. There is a great deal of overlap among all the sub-groups named in ICD-10 and DSM-IV and many individuals fit more than one diagnosis within the spectrum.

For these reasons, it is difficult to make comparisons among studies done by different workers, in different places, using different definitions and different methods of examination. Thus, the earliest epidemiological studies used Kanner's very narrow criteria and found the often quoted prevalence rate of 4.5 to 5 in 10, 000 children (Centre for Disease Control and Prevention, 2000).

1.2.3 Social interaction in children with autism

One hallmark and well documented indicator of autism is deficit in social interaction ability of these children (American Psychiatric Association, 2002). Children with autism may often seem aloof from peers or family. This results in delay in acquisition of language milestones. In the early years educational setting, promoting interactions between children is an important topic because social interactions provide a crucial social context for children's development (Brown and Conroy, 2002 cited in Hollingworth, 2005). Through social interaction children develop verbal skills and learn about how to get along with others.

Social interaction is critical for the integration of children with autism in the classroom and community and for children's development. Improved social interaction is likely to yield benefits for other developmental domain, including cognitive, communication and behaviour. Social integration as one of the goals of inclusion transcends increased social interactions to the development of meaningful relationships between children with and without disabilities. Social interaction skills are significant for the development of friendship and peer acceptance. Classroom interventions can indeed improve the social interactions of children with autism (Hollingworth, 2005).

1.2.4 Inclusive educational setting for children with autism

The issue of inclusion has been widely recognized in present society. One consideration concerning this social matter is the case of children with autism. The promotion has been implemented in any social mechanism including in the field of education. The United Nations Convention on the Rights of the Child (1989), the UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities (1993) and UNESCO's Salamanca Statement and Framework for Action are all international policies that make a strong case for inclusion, providing a unique opportunity to place inclusive education firmly on the agenda of national governments.

Although inclusive settings are associated with increase in social interactions for children with disabilities, just having children without special education needs in the classroom, without additional interventions may not be sufficient for promoting peer interactions. Therefore, teachers play important role in implementing strategies like setting up physical and social environment for small group, teaching children social interaction skills, and involving peers in social interaction intervention (Hollingworth, 2005). Through careful planning, execution, monitoring and modification of research based strategies, teachers can indeed improve the peer interactions of children, including children with autism. (McConnel, 2002 cited in Hollingworth, 2005). Deficits in teachers' knowledge of classroom strategies for enhancing social interaction among children with autism can seriously impact the quality of educational programs and development of these children.

1.3 Motivation of the Study

In my five years of professional practice as early interventionist, I got numerous opportunities to work closely with children with autism and their families. School placement is one of the major challenges for children with autism and their parents. In India these children are often catered into special schools (Action for Autism, 2007).

India signed the UN convention on Rights of Person with Disabilities on 31st march 2007 in Washington. By doing so, the Indian government has committed to protecting and ensuring disabled children's rights. The Government of India recognized autism as disability in 1999 (National trust act, 1999). Therefore, development in this area is relatively recent. Although Indian educational policies do encourage inclusion in mainstream schools but in my experience placement of children with autism in regular schools is herculean task. Often parents of children with autism, who were in regular schools, shared their concerns regarding the input their children got in these schools. Parents often complained about their children not being attended or not included in the class at all. According to Action for Autism (2007), currently the needs of children with autism in India are not being met in either the special or regular schools. With an understanding teacher or possibly an aide, a child with mild autism could very well

function in regular school. Therefore, at times, despite having willing school, hardworking staff and parents' wish to send their children with autism in regular school, placement is not successful. Children with moderate and severe autism may attend special school, but these schools always lack an understanding of effective methods of integrating these children in the class and handling their inappropriate behaviour (Action for Autism, 2007). Children with autism are often refused for school admission because schools are not equipped to cater to them (Action for Autism, 2007).

Therefore, the study is relevant in Indian context too. The study will help me to adapt the good practices from Czech Republic to my home country, India. The learning and knowledge gained from this study will serve as foundation for carrying out similar research in India. The outcomes of the results cannot be replicated in Indian context because of the difference in political and educational system and other factors influencing integration of children with autism in India, for instance, poverty, population, and attitude. Furthermore, the learning will be incorporated in my future training modules for mainstream teachers and special education teachers in Delhi, India since am involved in conducting training for various regular and special schools. The study will also be used as an authority to solicit funds from authorities to conduct awareness workshops and seminars for teachers and parents of children with autism. It will guide head teachers and teachers to update themselves with latest evidence-based strategies for social integration of children with autism.

Hence, my experience with mainstream schools, children with autism and inclination towards teaching practices (classroom strategies) encouraged me to study teachers' awareness of strategies in support of social interaction in children with autism.

1.4 Statement of the problem

In an effort to identify the possible shortcomings in mainstream teachers' awareness and circumventing them, this study will assess the knowledge base of mainstream teachers regarding social interaction in children with autism and strategies to improve social interaction in children, in Czech Republic. In addition, the recommendations from both,

mainstream and special education teachers for execution of classroom strategies to encourage social interaction among children with autism will be analyzed.

Deficits in mainstream teachers' knowledge level of classroom strategies to enhance social interaction in children with autism could seriously impact the quality of educational program for pupils with autism. When schools deliver inadequate programs that do not meet the individual needs of students with autism, not only are these pupils denied an appropriate education, but also the risk is great for compromising on their development and losing the crucial early years of children's life for intervention.

1.5 Aims and purpose of the study

The primary aim of this study is to examine mainstream teachers' awareness of classroom strategies resulting in improvement of social interaction in children with autism in early years in Czech Republic. The study will also examine mainstream teachers' understanding of autism spectrum disorder, teachers' view on social interaction in children with autism, awareness of strategies and recommendation for improvement in execution of strategies by regular teachers in inclusive classroom.

Although the study is an attempt to look at small part of input given by teachers, that is, social interaction development of children with autism, it will generate information regarding situation of teachers' awareness of strategies to enhance social interaction of children with autism. As social interaction is not only important for the children's development, it also promotes inclusive education. Therefore, the study of regular teachers' awareness of strategies in support of social interaction in pupils with autism in Czech Republic was expected to contribute by setting the need of specialized intensive training (pre-service and in-service), awareness raising programs, policy level changes in education system, and infrastructure (teaching aids).

However, the study also includes, what mainstream and special education teachers' recommend for effective implementation of classroom strategies for developing social interaction among children with autism, as teachers better understand the strengths and

limitations in their context. By examining the knowledge level of regular teachers and probable methods to encourage execution of classroom strategies for social integration of children with autism, the study explores four research questions. Therefore, this study is guided by following research questions:

Question 1. What do mainstream teachers know about Autism Spectrum Disorder?

Question 2. What is mainstream teachers' view on social interaction ability of Children with Autism?

Question 3. What do mainstream teachers know about strategies to enhance social interaction among children with autism in inclusive educational settings?

Question 4. What do mainstream and special teachers recommend for implementation of strategies to improve social interaction in Children with Autism?

1.6 Operational definition of terms

Pupils/Children with special education needs

The pupil with special education needs is considered a individual whose educational needs cannot be met under the conditions of regular education and who, in order to benefit from the process of education, has to be educated by means of special pedagogical methods and approaches.

Children with autism

Refers to the children who are living with neurodevelopmental condition called autism spectrum disorder. Degree of autism includes mild to severe form.

Inclusive education

Refers to any type of education that allows all children regardless of their abilities and needs to learn together.

Mainstream school

Refers to a school that provides education to all pupils but with additional support needs.

Special school

Educational institution involving techniques, exercises, and subject matter designed for students whose learning needs cannot be met by a standard school curriculum.

Mainstream teachers/Regular teachers

Refers to teachers who are trained to work in regular schools catering children with or without special education needs.

Special education teachers

One who is trained to educate in special schools.

1.7 Context and significance of the study

Approximately ten years ago, the identification of children with autism in educational settings was rare. Children who may have had autism were diagnosed as having mental retardation often with severe behaviour problem (Whaley, 2002). However, research from 1990s to the present day shows that the diagnosis of autism increased with high frequency (Wing and Potter, 2002, cited in Hanbury, 2005). As a result, more number of children with autism is identified in educational settings and this has created a need for education and understanding of how to reach these students as to facilitate learning.

The research study is based in Czech Republic which has a long history of education for special needs and is shifting from segregation towards inclusion. In the Czech Republic, there is currently a multitrack education system in which students with special education needs are preferably educated in the mainstream classes, but there is another choice of placement available- special classes in mainstream school or special schools (EUMAP, 2003).

In the past, children with disability could make use of special schooling with well-developed special pedagogy. The most important positive change in Czech education system is the possibility of integrating the children with special education needs into

mainstream education and openness and flexibility within the system of special schooling (Czech Republic National Report, 2004). Presently, it is common to have number of schools of various type and level concentrated in one area (e.g. kindergarten, a basic, remedial and auxiliary school, a secondary technical school, a practical school, a secondary vocational school, a training centre, a special pedagogy centre, a boarding house etc). Such arrangements facilitate a smooth transfer of pupils from one level to another, but also from one type of school to another (e.g. from remedial to basic and vice versa) (Eurybase-Czech Republic, 2007).

There are 14 districts in Czech Republic and each district has special pedagogy centre, appointed by Ministry of Education. These special pedagogy centres provide professional services to children who are integrated into mainstream basic schools and those who cannot attend school and are undergoing education at home. As regard to children with autism, the special pedagogy centers have full time position for special educator, specialized in the area of autism, providing counselling and assessment services to people with autism and their families (Czech Republic National Report, 2004).

The role of special schools has been changing. In addition to their educational role, they have become a resource centres developing new pedagogical methods and approaches and providing wide range of advice and support services both to pupils, their parents and mainstream teachers (Eurybase-Czech Republic, 2007). Therefore, special schools are actively involved in initiation of integrating their pupils into the mainstream classes. Various kinds of support, which include in-service teacher training programs and a counselling system providing specialist support by psychologists or counselling special educators, are provided for teachers. An individual education plan is prepared for each pupil with special needs by special education centre in cooperation with the child's parents and teacher (EUMAP, 2003). Teachers can also get support from assistant teachers assigned by special education centers. Teachers have opportunities to attend seminars organised for teachers of mainstream schools with integrated pupils (Eurybase-Czech Republic, 2007).

In conclusion it may be said that access to education has expanded in Czech Republic. The number of children with special education needs (including children with autism) integrated into mainstream education has been rising, and integration is more widely accepted by parents and teachers (Eurybase-Czech Republic, 2007). I am optimistic that this study is important and relevant because it is going to benefit all the stakeholders in matters of developing social interaction of children with autism in early year education settings through implementation of evidenced-based classroom strategies.

Therefore, a myriad reasons warrant my chosen subject of study. Due to increase in prevalence of diagnosed cases of autism in the educational setting, there is a need to provide appropriate educational program for pupils with autism. Currently, it is a policy at international and national levels to educate children with special needs in mainstream schools, and this would include children with autism for whom such a provision is likely to be of particular benefit in respect of social learning. Deficit in social interaction is the hallmark and well documented indicator of autism. Early intervention in children with autism is paramount since the mind is most amenable to training and suggestive thinking during the formative years. Hence, in early years' educational setting, promoting interaction between children is important because it provides a crucial social context for children's development. The contribution of teachers is paramount in helping such children become socially receptive and responsive. They also remain central to any effort in aiding early and commensurate intervention espousing academic achievements. Furthermore, there is wide research on classroom strategies to improve social interaction among children with autism. Thus, deficits in mainstream teachers' knowledge of autism and various classroom strategies for social development of children with autism, particularly in early years' educational setting, could seriously impact the quality of educational programs and development of students with autism.

1.8 Structure of the Study

This report is divided into six chapters. Following is a brief summary of what each chapter entails:

Chapter 1 gives an introduction of the whole study, statement of the problem, motivation of the study, aims of the study, research questions and significance of the study. Further, it describes structure of the whole dissertation.

Chapter 2 gives a review of literature on autism spectrum disorder, social interaction in children with autism and its relation with theory of mind, early intervention strategies to support social interaction, inclusive education for children with autism and importance of teachers' awareness and finally, it gives summary of chapter 2.

Chapter 3 gives details on the methodology employed in this study. A justification for the methodology chosen for this study is presented. This chapter further mentions advantages and disadvantages of chosen methods, ethical aspect considered in this study, the validation and reliability process, and the way data is analyzed and interpreted and limitations of the study.

Chapter 4 includes the presentation and analysis of the results of the study supplied with tables, charts and graphs. This is followed by **Chapter 5** which provides an evaluation of the research findings in the context of literature. The results are explored in relation to both the research questions. Limitations to be considered when going through the findings are highlighted.

Chapter 6 presents a summary, conclusions and recommendation of the study. The objectives of the study are mentioned followed by a summary of the findings and a discussion on the success of the investigation. Finally, the bibliography and appendices complete the dissertation report.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This literature review begins with information pertaining to description of the autism spectrum disorder. Section two reviews the social interaction in children with autism and discusses theory of mind. Section three discusses early intervention strategies in relation with enhancement of social interaction in children with autism. Section four analyses present scenario of inclusive education for children with autism. Section five discusses importance of teachers' awareness in disseminating quality education for children with autism and section six summarizes this chapter.

2.2 Autism

Autism is a complex neurodevelopmental disability. Criteria for diagnosis of autism are set out in Diagnostics and Statistical Manual of Mental Disorder (DSM-IV) of the American Psychiatric Association and the International Statistical Classification of Diseases and Related Health Problems (ICD-10; WHO 1992) of the World Health Organization (WHO). It gives behavioural descriptions of autistic disorders, which are based on the triad of impairments formulated by Lorna Wing in 1992 (Bogdashina, 2005). Hence, autistic spectrum disorders impacts the normal development of the brain processes related to three developmental domains, that is, communication, socialization and behaviour/play (Bruinsma, Koegel, and Koegel, 2004; Passerino and Santarosa, 2007). Autism is present early, with symptoms generally manifests in the first two years of life (Liebal, Coloumbi, Rogers, Warnken, Tomasello, 2008, Chuthapisith, 2007). Due to its many variations in clinical manifestations, autism is often referred to as autistic spectrum disorder (ASD). The ASD term encompasses the classic autistic disorder and its milder variants, including asperger syndrome

and pervasive developmental disorders-not otherwise specified (PDD-NOS) (Chuthapisith, 2007).

In Kanner's (1943) description, deficits in affective contact were considered to be central to the autism diagnosis. More recently, Laushey and Heflin (2000) suggested that core impairments in social behaviour should be viewed as the defining feature of ASD. While the social difficulties displayed by children with autism vary from individual to individual, these difficulties may include impaired eye gaze, poor joint attention, few verbal initiations, and failure to develop age-appropriate friendships (DeSchryver, Carr, Cale, Smith, 2008)

2.3 Social Interaction and Theory of Mind in Autism

Children with autism spectrum disorder display delays or difficulties in many aspects of communication. Social communication is a major challenge faced by children with ASD. (Wetherby et al., 2000 cited in Keen, Rodger, Doussin, Braithwaite, 2007). More importantly for social interactions, children with autism tend not to initiate appropriate speech or generalize spontaneous speech to a variety of people, places or stimuli (Liber, Frea, Symon, 2007)

In recent years, there has been an increasing interest in early social communicative abilities in young children. In children with autism, numerous deficits in these abilities have been found (Ozonoff and South, 2001 cited in Liebel, et al., 2008). Particularly joint attention, eye gaze, play, initiation of social contact and imitation abilities seen to be very important in the social and cognitive development of the young child (Keen et al., 2007; Liebal et al., 2008)

While social functioning is severely affected, not all aspects of social behaviour are equally impaired in autism (Liebel et al., 2008). There are striking social impairments that are widely described in the autism literature and that might as well be crucial skills in order to cooperate with others. The imitation deficit is particularly well documented in autism (Rogers 1996; Stone et al., 1997 cited in Whaley, 2002). Therefore, the social impairment of children with autism has been postulated as one of the defining characteristics of the disorder (Fein et al., 1986 cited in Knott, 2007).

These abilities (joint attention, eye gaze, play, initiation of social contact and imitation) have all been suggested to be precursors to a 'Theory of mind' (Bogdashina, 2006). Theory of mind can be defined as the capacity to be aware of another person's mental states and to use them to explain and predict behaviours. It is thought to form the basis of interpersonal understanding. (Baron-cohen, 2001 cited in Liebal et al., 2008). According to theory of mind, put forward by Baron-Cohen, Leslie and Frith in 1985, the children with autism lack understanding of what other people are thinking, feeling, intending to do (Bogdashina, 2006). Due to this inability to understand other people, persons with autism may have problems relating socially and communicating with others. Children with autism may appear self-centered or uncaring because they may have difficulty to understand that their peers or classmates even have thoughts and emotions. A complex high level cognitive ability, theory of mind develops over time and does not complete its development until relatively late. States of development include the following: 1) joint attention- around 18 months, 2) Ability to understand false belief- between 3 and 4 years of ages, 3) Ability to understand second-order false belief- between 6 and 7 years of age (Stone, et al., 1998 cited in Whaley, 2002).

In addition, recent attempts to understand the underpinnings of social development in autism have placed cognitive accounts such as theory of mind and central coherence at the core (Knott et al., 2007; Anderson, 2004). A number of studies have shown that children with autism differ in their capacity to develop theory of mind compared with typically developing children or children with other forms of language delays (Anderson et al., 2004).

Although the idea that autism involves specific deficits in theory of mind has been generally accepted among researchers and clinicians, but it has been argued that too much emphasis has been placed on false belief and related tasks as key measures of this impairment, because they tap transitions in conceptual developments that take place during a limited developmental period. (Bogdashina, 2005) Autism emerges much earlier than age 4 when children are first able to pass false belief tasks, suggesting that deficits in theory of mind must predate this stage of development if it is used to provide a cognitive explanation of autism symptoms. In response to these concerns, there has been a shift toward incorporating a broader conception of theory of mind. Taking a developmental perspective, theory of mind is now viewed as emerging in infancy, and development later extend into later childhood both among normally

developing children and children with autism (Liebel, et al., 2008). Children with autism are not seriously delayed in the acquisition of theory of mind but may also never achieve the same endpoint, as deficits remain evident even among high functioning adolescents and adults (Rogers, 1996)

On the other hand, Knott et al., (2007) argues that social interaction deficits in autism are not explained by cognitive milestones identified in traditions like theory of mind alone. Because these theories generally examine experimentally the evidence for impairment in children's skills, but fail to consider the processes by which children learn such skills and put them into practice in their daily lives. (Knott et al., 2007)

Furthermore, in contrast to theory of mind, at least two different groups have shown that children with autism appear to understand other people's intentions regarding actions on objects (Aldridge et al. 2000; Carpenter et al. 2001 cited in Liebal et al., 2008). The finding of these studies suggests that children with autism are not completely blind to others' minds, but they can "read" the meaning of others' overt behaviours even when it involves intended but unperformed acts on objects. In addition to 'reading' intentions regarding actions on objects, children with autism in group studies appear to have some knowledge of what others see or, in some cases to what others know regarding objects. Thus, children with autism seem to understand something about other people's actions in terms of individual intentionality, such as their individual perceptions and intentions (Liebal et al., 2008). In addition, Bogdashina (2006) argue that although it may be true that children with autism lack theory of mind but often we do not read their mind accurately either. Therefore, in the field of autism, the interpretation of the lack of theory of mind is one sided.

2.4 Early Intervention Strategies

Children with autism appear most able to benefit when intervention is begun very early, between ages 2 and 4 and when intervention is intensive, including 15 or more hours per week of focused treatment with very low child to adult ratios over 1 to 2 years or more. (Rogers, 1996) The reason for better outcome of intervention in early age is the plasticity to development which may be somewhat unique among the more severe development disabilities and which may indicate a critical period for intervention (Rogers, 1996).

In early years of a child's life, an important developmental task is the formation of peer-related social behaviour. It is now a widely accepted fact that peers can contribute considerably to the development of social and communicative competencies. (Koegel, Koegel, Frea and. Fredeen, 2001)

Various authors acknowledge the need to enhance social communication skills through early intervention, as they are associated with social reciprocity, which is vital for increasing productive interactions, social behaviours and social learning (Hancock and Kaiser, 2002; Hwang and Hughes, 2000; Siller and Sigman, 2002). However there is great variability regarding extent to which interventions address core characteristics of social communication and few empirical data are available (Wetherby et al., 2000 cited in Keen D. et al., 2007)

Heflin and Simpson (1998) suggested that no single method should be exclusively used, and the National Research Council's Committee on Educational Interventions for Children with Autism recommended that developmentally-appropriate small group instruction should be a part of the education of children with autism (National Research council, 2001 cited in Ledford et al., 2008).

A review of the research on approaches to early intervention for young children with autism illustrates a shift from traditional behavioural to contemporary behavioural and social pragmatic approaches emphasizes child initiation, motivation and spontaneity within naturally occurring events and activities (Prizant and Wetherby, 1998). Essentially this

approach focuses on enhancing social communication skills through interactions with the child's primary social partners that take place in everyday contexts. Children with autism have responded positively to a range of interventions aimed at developing their interaction skills through social activities with their mainstream peers (Rogers, 1996; Hwang & Hughes, 2000). Specific strategies including circle of friends (Whitaker, Barrett, Joy, Potter and Thomas, 1998), integrated play groups (Wolfberg & Schuler, 1999; Yang, Wolfberg, Wu & Hwu, 2003), integrated social skills training groups (Gonzalez-Lopez & Kamps, 1997), peer tutoring (Jones, 2007), environmental arrangement, responsive interaction techniques and milieu teaching are used to achieve this (Keen et al., 2007).

A range of technique has been developed using photographs, drawings, text and individual and group tuition to teach specific mental state or theory of mind concepts to children with autism with a language of at least five years. Swettenham et al. (1996) successfully taught theory of mind skills by encouraging their pupils with autism to conceive the mind as a camera. A similar strategy was used by McGregor et al. (1998) who employed a teaching method that used a picture actually placed inside a doll's head as a tangible image of the doll's knowledge and subsequent thoughts (Attwood, 2000).

A strategy that is increasing in popularity in schools is the use of social stories (Gray, 1998). Social stories are short stories that provide the child with autism spectrum disorder accurate social information about an activity or event, a description of the possible reactions and direction as to the responses he or she is expected to provide in a given social situation (Scattone, 2007). To teach social stories, comic strip conversations techniques were also developed by Carol Gray (1996b) designed as a means of visually illustrating the different levels of communication that occur in a conversation. The technique is relatively simple and involves drawing stick figures with speech and thought bubbles and designated colours to represent emotions (Attwood, 2000).

Video modelling has been found effective in enhancing conversation skills for children with autism. For example, Charlop and Milstein (1989) used video modelling to teach conversational skills to three boys with autism (Scattone, 2007).

Social skills training programs are designed to teach children the skills necessary to navigate their social environment. Acquisition of these skills should enable the child to assimilate into the peer group and to interact with both familiar and unfamiliar adults (Gresham, 1986). Several researchers have reviewed the literature for social skills training programs for children with autism (DiSalvo & Oswald, 2002; Rogers, 2000) but have not examined outcome separately for children with autism spectrum disorder (Rao et al., 2008).

There has been some success reported in the research literature for social skills groups for children, adolescents and young adults with autism and asperger syndrome (Andron and Weber, 1998; Marriage et al. 1995; Mesibov 1984; Ozonoff and Miller, 1995; Williams, 1998 cited in Attwood T., 2000). This strategy provides group tuition on why certain skills are important, and practice in applying those skills using modelling, role play, video recordings and constructive feedback (Attwood, 2000). This intervention involves teaching specific skills (maintaining eye contact, initiating conversation) through behavioural and social learning technique (Cooper, Griffith & Filler, 1999). Group based social skill training is an appealing intervention approach for use with children with autism because it provides the opportunity to practice newly learned skills in a relatively naturalistic format that may promote interaction with other children (Berry et al., 2003 cited in White S.W. et al., 2006). Building on the early work of Strain, Kerr and Ragland (1979), there has been a growing interest in **peer-mediated interventions**, both as a means to foster specific skills in youngsters with autistic spectrum disorders and focused more broadly on promoting interaction and relationships (Wolfberg & Schuler, 1993 cited in Whittaker , 2004).

A number of studies have documented the effectiveness of adults **imitating** children with autism in object play situation (Dawson and Adams, 1994; Dawson and Galpert, 1990 cited in Field, 2001). Imitation has been found effective in enhancing social responsiveness in the children.

Time delay procedures offer one option for intervention in the area of social communication and play. Although a significant amount of research has been conducted using time delay

procedures, there have been few studies that address how to teach children with autism to engage in social communication while playing with a peer.

Another strategy called time delay is found highly effective in teaching socially appropriate use of language, discrete behaviours, and chained activities. The rapid learning of the targeted phrases or tasks and the low percentages of error while using time delay procedures was noted by Wolery et al. (1992). Schuster et al. (1998) reported that in the 20 studies they reviewed, there was 97% effectiveness in using time delay to teach target tasks to children with autism and further concluded that time delay was effectively used in one-on-ones, small groups setting and when embedded throughout already established routines. Since time delay is conducted within a natural context, it may be easily incorporated into classrooms and home environments by trained individuals within each environment (Liber et al., 2007).

2.5 Inclusive Education for children with autism

Currently, throughout the western world, countries are moving towards inclusive delivery of education for children with special educational needs (Brown et al., 2000; Moore et al., 1999; Reynolds, 1989; Stainback et al., 1994; Anderson et al., 2004). The extent of participation varies, however, from mainstreaming, where the child is partly integrated, to full inclusion, where the children with disabilities have full time access to their typical peers. One of the postulated benefits of inclusion is that typical peers serve as better models and facilitate more frequent interaction than may be achieved by a segregated approach (Jahr, et al., 2007).

The outcome of inclusion in terms of social participation varies considerably across and within clinical groups, depending on the degree of disability. Children with ASD often have difficulty generalizing learned skills to new settings or using newly acquired skills in presence of novel people or materials (Handelmann, 1999 cited in Anderson, 2004). Consequently, the National Research Council (2001) recommended that students with ASD be taught skills in the natural context in which they would be used. These issues coupled with legal mandates have led to the placement of more students with ASD in general education classroom (DeSchryver, 2008). It is claimed that inclusive education affords the child with

special needs increased opportunities for social interactions and play with typically developing peers and better models of adaptive behaviours, thereby fostering the development of behaviours that is more appropriate and adaptive social functioning (Harrower J.K, and Glen Dunlop, 2001). Odom and colleagues (2001) cited four independent reviews which conclude that, provided teachers promote social integration, children with disabilities are better in inclusive preschool settings with regard to both their language development and increased social competence (Anderson et al., 2004).

Although there has been an increasing trend to include students with autism and other disabilities in general education classrooms along with their typically developing peers. This trend has stemmed largely from theoretical arguments related to social development and legal issues related to the civil rights movements.

Researchers have found mixed results among students with autism in general education classroom. For example, study conducted by Evans, Salisbury, Palombaro, Berryman, & Hollowood (1992) (cited in Harrower J.K & Glen Dunlap, 2001) concludes that some fully included students with disabilities, including autism are rated by their classmates as being among the most popular in class, where as others are not (Evans, Salisbury, Palombaro, Berryman, & Hollowood, 1992 cited in Harrower J.K & Glen Dunlap, 2001)

The study by Evans and colleagues (1992) also documented that students with disabilities were observed more frequently to be on the receiving, rather than the giving, end of social interactions, and this tendency was amplified over the course of the school year. Thus, studies addressing social behaviour have yielded encouraging yet variable results.

In contrast, according DeSchryver J.S. et al., (2008) findings in this area have been mixed. In some cases, limited or qualitatively poor social interactions have been reported in inclusive environments. In one study conducted with students with special needs, Hilton and Liberty (1992) reported that 78% of interactions were purely instructional in nature and occurred between the students with special needs and their teachers, teaching assistants, or peer tutors rather than with classmates who were not acting tutors. Fewer than 5% of student contacts

were related to companionship or social or friendship activities with the students without special education needs. Furthermore, due to their particular deficits, students with ASD may not participate in play activities with other students even when they are in close proximity to their typical peers. Anderson et al, (2004) cited in DeSchryver J.S, (2008), conducted observations of 10 children with autism during recess periods in their mainstream kindergarten and elementary school placements. The children with autism were observed to engage primarily in solitary play activity even when they were with their peers in active and crowded places. Similarly, Jamie et al., (2008) mentioned another study where pupils with autism engaged in fewer reciprocal interactions and interactions with shorter durations with untrained than with trained peers even if untrained peers were familiar to the children with autism.

Concisely, integration of children with autism has two clear goals. The first is to honor the right of all members of a community to take full part in its day-to-day life. The second goal is to improve the quality of children's social interaction and academic development through daily contact with typically developing peers. The issue of inclusive education was raised in a political and human rights context, in which segregation of children with special needs was considered as denial of equal opportunity. Therefore, two rights may be in a conflict: the right to inclusion versus the right to the most appropriate educational provision, which might necessitate separation or only partial integration.

Therefore, merely placement in inclusive settings is not sufficient to encourage authentic social interactions between students with ASD and their typical peers. For this reason, researchers have advocated for educational inclusion as a relocation of specialized educational services not merely as an intervention in and of itself (Sailor, 1996). Thus, the focus of the inclusion debate may best be reframed from segregated versus inclusive education to how to provide appropriate supports in inclusive settings. For inclusive placements to be successful, educators must have knowledge of and access to empirically validated strategies that will assist them in this process (Harrower., and Dunlap, 2001). Specifically designed support structures are needed for these children to engage in reciprocal

peer interaction and to participate successfully in inclusive settings (Harrower , and Dunlap, 2001).

2. 6 Importance of Teachers awareness

Teachers work closely with children especially in kindergartens and primary classes. During these crucial years, teachers witness specific circumstances in child's life, like, new environment and demands, close peer contact. This is the time when typical feature of autism are more obvious. Furthermore, an educational reform in past two decades has meant that teachers play an increasingly prominent role in many aspects of care and education of their pupils (Howlin, 1998 cited in Helps et al., 1999). In particular, they are vital in fostering the social and communication skills that are so elusive for children with autism.

This argument is reinforced by evidence for the importance of appropriate early educational intervention in the long term development and academic achievements of children with autism (Bartak and Rutter, 1973; Jordan et al., 1998 cited in Helps et al., 1999).

Growing body of literatures suggests the significance of intensive early intervention for maximum output of interaction of children with autism. Interesting to note that, a study conducted by Tardiff et al., (1995) in which analysis of elementary behaviors of children with autism confirms the claim that children with autism are capable of producing a range of communicative behaviors in structured situation. Bruinsma et al (2004, p.1) further adds to it stating,

‘although early estimates suggested only half of all children would learn to use functional speech, more recent estimate on children who participated in early intervention indicate that at least as many as 85 to 90% of children with autism can learn use functional speech if intervention begins in the preschool years.’

Therefore, teachers' role in providing effective early intervention to enhance social interaction and communication ability among children with autism is significant.

Many more children with autism are now being integrated in mainstream schools and there is evidence that children with autism spectrum disorder can benefit enormously from such an

arrangement, particularly in terms of social learning. (Whittaker, 2004). Therefore, specific knowledge regarding whole range of aspects of the disorder and correspondingly flexible and facilitative approach to the teaching process, are central to achieving optimal education for children with autism (Helps et al., 1999).

Although in past two decades autism seemed to be well researched and documented area in terms of diagnosis, appropriate education setting and classroom strategies to promote inclusion. But there remains a significant gap between the rhetoric and reality of inclusion. (Whittaker, 2004). This finding is evident in research conducted by Sarah et al., (1999). The outcome of research showed that teaching staffs lacked a basic theoretical undertaking of autism. Many teachers harboured outdated belief about the disorder, whilst others simply remained confused and unsure. Special educators as compared to regular teachers had impressive understanding of appropriate strategies to facilitate learning in children with autism even though they were not always aware of the theoretical foundation for the use of such methods.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter is about methodology of the research. The chapter begins with description of role of research in education. It continues with the section on research paradigms comprised of an explanation on ontological and epistemological approach for the study, including the theoretical perspectives adopted in this research. The following section proceeds with methodology components: research design, participants, instrument for collecting data, methods for collecting data, data collection, approach to data analysis, validation and reliability. Last section includes the ethical concerns for the research and limitations of the study.

3.2 Role of research in Education

Research is a 'process of systematic inquiry that is designed to collect, analyze, interpret, and use data to understand, describe, predict, or control an educational or psychological phenomenon' Mertens (p.2, 1997). The purpose of research is to review the existing knowledge, investigate problems and provide solutions, and to modify or generate new knowledge.

Research in education is essential in terms of providing useful and dependable knowledge to make education process more effective. Education does not occur within a vacuum. Education is influenced by social, political, historical, economic, technological and ecological factors (Lowe, 2007). Research can help to begin to answer questions about learning and teaching. There are various considerations, which emphasized need for research in education especially in teaching practice. As Sylva suggests that 'research findings may inform the process of teacher training or the compilation of curriculum materials, literature and the media, which in turn are intended to influence teachers' practice' (p. 294, 2000).

Therefore, concerned with the problems of educational input given to children with autism by mainstream teachers in inclusive classroom, the study aims to explore knowledge level of mainstream teachers and what would help to improve the awareness and knowledge of teachers in relation with classroom strategies leading to social integration of students with autism.

3.3 Research Paradigms

Paradigm is an outline which guides the researcher to examine, analyze and interpret the problem to find out solution. As Bryman states, 'paradigm is a term derived from the history of science, where it was used to describe a cluster of beliefs and dictates that for scientists in a particular discipline influence what should be studied, how research should be done, and how results should be interpreted' (p.542, 2004). Thus, paradigms are structured and organized beliefs which channelize researchers to select research questions and methods to study them.

There have been quite a few research paradigms, among which positivism, constructivism, and realism appears to be main types. The research paradigms consist of basic three elements, that is, ontology, epistemology and methodology (Crotty, 2003).

Epistemology is the philosophy of knowledge or what it means to know (Gray, 2004). It provides a philosophical background for deciding what kinds of knowledge are legitimate and adequate. Epistemology is intimately related to ontology and methodology, as ontology involves the philosophy of reality, epistemology addresses how we come to know that reality while methodology identifies the practices that can be used to attain knowledge of it (Krauss, 2005).

In constructivism, reality is multiple and socially constructed by subjects interaction with the world. In contrast positivists hold that one reality exists and researcher is observer of social reality. As the focus of the research study was to explore knowledge level of teachers, it is expected to give reality that is independent of subjects of the study. Therefore, positivism stance was chosen for my study.

3.4 Ontological and epistemological Stance

The study was based on the Permenidean ontology of *being* where 'reality is seen as being composed of clearly formed entities with identifiable properties. Once entities are held to be stable they can become represented by symbols, words and concepts' (Gray, p.17, 2004). The *being* ontology leads to objectivist and constructivist epistemology.

According to constructivism, truth and meaning are inseparable and truth is created not discovered. A theoretical perspective linked to constructivism is interpretivism. In contrast, the objectivist epistemology holds that reality exists independently of consciousness. So, research is about discovering this objective truth. A theoretical perspective closely linked to objectivism is positivism. Interpretivism and objectivism holds different epistemological positions, but both are based upon a *being ontology*.

3.5 Research Methodology

Methodology is the 'strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes' (Crotty, p.3, 2003). The choice of research methodology is determined by a combination of several factors- for example, purpose, research environment, resources and participants. The most important was to consider the research questions. As Robson states that 'the general principal is that the research strategy or strategies, and the methods or techniques employed, must be appropriate for the questions you want to answer' (p.80, 2002). Furthermore, research methodology is chosen on the basis of ontological and epistemological approach. Study is based on *being* ontology and inclined towards a positivist perspective, descriptive survey was chosen as research methodology. As the study is intended to explore awareness, knowledge and views of mainstream teachers, a large number of participants were required to obtain substantive outcome, to make any generalization. Survey 'usually relies on large-scale data gathering from a wide population in order to enable generalizations to be made about given factors or variables' (Cohen et al, p. 206, 2007). Therefore, survey is a data collection method that asks question from sample of respondents, generally at a single point in time, using either a questionnaire or an interview. They are standardized so that all respondents are asked the same question. (Sanders, William and Thomas, 1983)

Surveys are useful for gathering factual information, data on attitudes and preferences, beliefs and predictions, behaviour and experiences (Gray, 2004). A descriptive survey helped me to relate various aspects of the study (research questions, resources, purpose of the study, sample, and research environment) and maintain balance between them. A survey gathers data on a one-shot basis and hence is economical and efficient. It generates numerical data and gathers standardized information by using the same instruments and questions for all participants (Cohen et al, 2007). It is anonymous and can be completed at the respondent's convenience. Survey is appropriate when respondents are geographically dispersed as data can be collected through questionnaires.

The study attempted to examine teachers' knowledge and awareness, and various factors influencing it so that appropriate suggestions can be given to improve the practice. Thus, correlation between factors was essential to draw any conclusion. A survey generates numerical data, provides descriptive, inferential and explanatory information which further assists in ascertaining correlations.

As Robson (p.234, 2002) states survey as research method provide a relatively simple and straightforward approach to the study of attitudes, values, beliefs, and motives. For this study, simplicity and straightforwardness are characteristics of great value as teachers' knowledge and awareness was examined. Since there were no time and resources to conduct a relatively complicated and large scale study using multi methods for data collection, survey research proved to be appropriate. Furthermore, as the study aimed to find out facts about knowledge level of Czech teachers, data was collected only from teachers working in schools. Therefore, generalizable information was very much needed. Needless to say, data standardization could make analysis easier and is definitely an advantage for the survey research (Robson, 2002).

The important characteristic of survey is the use of quantitative methods. Quantitative methods, as indicated from the name, involve explicit use of figures, statistics and calculations. 'It carries with it an aura of scientific respectability. Because it uses numbers and can present findings in the form of graphs and tables, it conveys a sense of solid, objective research' (Denscombe, p. 237, 2003). The application of mathematics gives a sense of accuracy and explanatory power to the research, at least superficially. This is of course the strength of positivism and quantitative research methods, which can be used as effective tools

in many researches. In my research design, I intend to use questionnaire-based survey to examine teachers' awareness of strategies in support of social interaction among children with autism, which obviously involves a great deal of calculation of figures and is therefore quantitative method was considered. Moreover, data collected was interpreted in figures, charts and tables, from which conclusions and finding was drawn.

Apart from advantages, I was also aware of the disadvantages of survey method. Survey data can be affected by individual respondent's memories, knowledge, experience, motivation, and personality' (Robson, 1993). In survey, poor response rate is common and researcher can be wrong if he or she fails to acknowledge the theoretical basis on which it is meaningful to make measurements of such entities and to do so with survey questions. (Silverman, 2002)

3.5.1 Research design

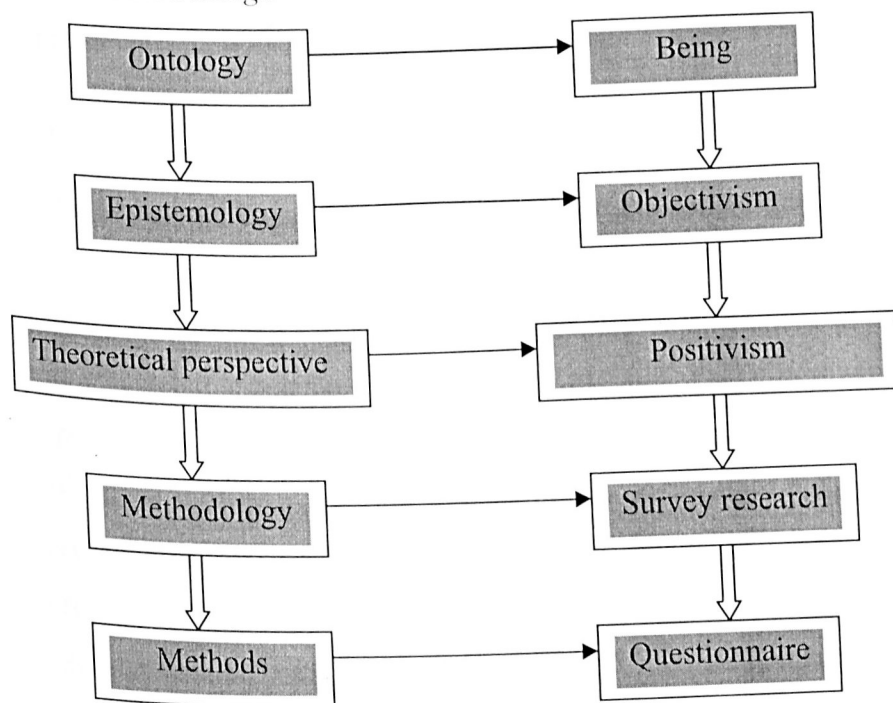


Figure 1: Research design

In developing a research process, the basic elements (ontology, epistemology, theoretical perspective, methodology and methods) of the research should be related to one another.

The study is based on 'being' ontology which leads to objectivism epistemology. 'Objectivism is the epistemological view that things exist as meaningful entities independently of consciousness and experience, that they have truth and meaning residing in them as objects and that careful research can attain that objective truth and meaning.' (Crotty, p.6, 2003). This is the epistemology underpinning the positivist stance. Positivism explores the relation between simultaneously occurring social phenomenon to establish relationships or to uncover the cause and effect association between societal processes through scientific approach (Robson, p.21, 2002). But positivistic researcher is generally uninvolved or detached from the study and is unbiased in his analysis (Johnson and Onwuegbuzie, 2004). Under positivist spirit, survey research was chosen and quantitative method was employed. Data was collected using questionnaire as it is widely used and useful instrument for collecting survey information, provides structured, often numerical data, being able to be administered without the presence of the researcher, and information gathered is often comparatively straightforward to analyze. (Cohen et al, 2007).

3.6 Methods for data collection

3.6.1 Questionnaire as data collection method (Appendix 1)

Research methods are the 'techniques or procedures used to gather and analyze data related to some research questions or hypothesis' (Crotty, p.3, 2003). In my research, questionnaire was adopted to gather and analyze data. Questionnaire is appropriate to use with large number of respondents in many locations. It aims to provide straight forward information. In practice, questionnaires are very likely to include questions both about facts and opinions. It is appropriate instrument when resources allows for cost of printing and delays in designing, piloting or getting response. Important in using questionnaire as research instrument is that respondents are able to read and understand the questions. It is easier to arrange. It supplies standardized answers, to the extent that all respondents are posed with exactly the same questions with no scope of variation in the wording of the questions. A further and important advantage of the questionnaire is that it encourages pre-coded answers though unstructured answers can be sought. The structured answers from the respondents allow for speedy

collation and analysis of data by the researcher (Denscombe, 2003). These characteristics make it easier to administer to large number of research participants.

In many respect, questionnaires have potential disadvantages too. Pre-coded questions can be frustrating for the respondent because of restriction it provides and can bias the findings towards the researcher's, rather than the respondent's way of seeing things (Denscombe, 2003). The problems posed by pre-coded questions are tackled in this study by providing open ended questions and option for adding comments under 'any other' heading. Another disadvantage is that questionnaire offer little opportunity for the researcher to check the truthfulness of the answers given by the respondents. In this study, respondents were explained title and rationale of the study to get their true responses.

3.6.2 *Questionnaire content*

Robson (2002) suggests that it is not advisable to develop one's own test unless considerable time and resources are available for this purpose. Therefore, in this study design of the questionnaire was adopted from the questionnaire developed and applied by Mc Gregor and Elaine Cambell (2001) in their research study related to children with autism and teachers. Some statements in questionnaire were added on the basis of literature concerning autism. The questionnaire was peer reviewed and also reviewed by my supervisor PhDr. Iva Strnadová, PhD. and by Prof. Marie Černa who is highly experienced special educator in Charles University.

The questionnaire was divided into five sections. Section A focused on demographic information such as gender, age, level of education, teaching experience, and experience with children with autism. Section B explored teachers' knowledge about autism. It consisted of 19 statements. Some statements were based on the diagnostic criteria given by American psychiatric association in DSM IV manual, some were based on characteristics of autism spectrum disorder and some were related to the aetiology of autism spectrum disorder (chapter 2). There were 13 true statements and six false statements. Teachers were expected to tick mark the appropriate (true) statement. Section C explored teachers' view of social interaction ability of children with autism. It consisted of seven subsections comprised of

questions on knowledge and opinion regarding social interaction. The questions in section C are in accordance with the subsection 2 of the literature review (chapter 2). Subsection 1 and 2 examines knowledge about social interaction in children with autism. Subsection 3 and 4 focuses on intervention as to examine teachers view about intervention given in children with autism. Subsection 5, 6 and 7 explores teacher view on how classroom setting and teacher's role is related to improving social interaction among children as in existing literatures, inclusive setting and teachers' role is emphasized in encouraging social integration of children with autism (chapter 2). This Section D examined teachers' awareness of strategies. It is composed of three questions on awareness, challenges perceived in implementation of strategies and strategies that teachers are acquainted with. Finally, section E of the questionnaire focused on teachers' recommendation for implementation of strategies to enhance social interaction among children with autism in classroom.

The original draft of the questionnaire was developed in English and translated in Czech language to make it readable and understandable for the respondents as most of the teachers do not speak English in Czech Republic. (Appendix 2) The responses in the Czech version were retranslated into English to check consistency with the original draft. This process was considered as part of triangulation work which was important to ensure validity and reliability of the research. Finally, a common questionnaire was developed for regular and special education teachers.

3.7 Data collection

3.7.1 Data obtained

This study aimed at examining the awareness and knowledge in mainstream teacher about strategies to improve social interaction in children with autism. In the study, data collected provide information in four areas: teachers' knowledge of autism, teachers' view on social interaction in pupils with autism, awareness of classroom strategies leading to social interaction among pupils with autism and recommendations to improve implementation of classroom strategies by regular teachers.

Data obtained from knowledge of autism and views on social interaction served as foundation to examine teachers' awareness of classroom strategies as there is close link between knowledge of autism spectrum disorder, social interaction development in children and appropriate classroom strategies to improve the same. Therefore, data obtained in four areas are interlinked and they are in accordance to answer the four research questions. Hence, data received was organized in following areas.

- Teachers' knowledge of autism spectrum disorder.
- Teachers' views on social interaction in children with autism.
- Teachers' awareness of classroom strategies to ameliorate social integration of children with autism.
- Teachers' recommendation to improve implementation of evidence-based strategies in relation to social interaction among students with autism.

3.7.2 *Sample*

Sample is a subset of the total population from which knowledge gained to answer research questions is representative of the total population under study (Cohen et. al. 2007). Especially for quantitative study the larger the sample the better, as this not only gives greater reliability but also enables more sophisticated statistics to be used. Thus a sample size of thirty is held to be the minimum number of cases for some form of statistical analysis. (Cohen et. al., 2007) Sample in this study were mainstream teachers and special education teachers. Teachers were selected randomly whoever was interested to participate in the study. The mainstream teachers were asked to fill all the sections in questionnaire while special education teachers were asked to fill only section A (Demographic information) and section E (recommendation for implementation of strategies by mainstream teachers). In the study, number of mainstream teachers was twenty eight and represented various cities in Czech Republic. Similarly, one group of special education teachers who are enrolled in Life long program in Charles University were from different cities in Czech Republic and other three groups of special education teachers were from three different special schools in Prague and Most.

According to Cohen et al. (2007) the sample if selected randomly, can represent the larger population if sample size is in accordance with population size and the amount of heterogeneity of population. In this study, the number of mainstream teachers (twenty eight) is not large enough to represent the population of regular teachers in Czech Republic. Therefore, this study is preliminary investigation and serves as foundation for further research.

3.7.3 Research participants

The participating teachers belonged to five different groups. These groups were coded as LSU, LS, SK, SSR, and SAS. The LSU group consisted of mainstream teachers who are enrolled in a Life long education program for teachers who already have university degrees and want to widen their competencies to work also with children with special educational needs by completing their studies with state examination from special education. The LS group consisted of special education teachers enrolled in a Life long education program who completed their education on high school level and need to gain so called "educational-minimum" for their work. They usually work as educators in homes for people with special educational needs, mostly for people with intellectual disabilities. Both LSU and LS teachers are from various cities throughout the Czech Republic.

The SK group includes special education teachers who work in one Prague kindergarten for children with intellectual disabilities and autism, while the SSR group comprises of special education teachers from one basic school for children with specific learning disabilities and behaviour problems in Most. The SAS group includes special education teachers from one basic special school located in Prague.

3.7.4 Procedure and access

The Charles University and two special schools in Prague and one special school in Most provided access to the sample of mainstream teachers and special education teachers. The Charles University rendered sample and site for data collection as mainstream teachers (LSU)

and one group of special education teachers (LS) are registered in two different Life long education programs.

Access to the LSU, LS and SSR (special school in Most) group was provided by my supervisor PhDr. Iva Strnadová, PhD. Therefore, I visited Charles University on the given date and time. Questionnaires were distributed to LSU and LS group during break in their lecture. Participants were informed about the title, purpose and significance of the study by my supervisor in Czech language. Filling up of questionnaire took 20-30 minutes. The SSR group was contacted through emails and phone. Questionnaires were sent electronically and data was received within a week.

To contact special schools in Prague (SK and SAS group), I was supported by Prof. Marie Černa who is esteemed educator in Charles University and highly respected in many schools in Prague. The school directors were contacted through emails and questionnaires were sent electronically and responses were obtained from all these special schools within a week.

Special education teachers were asked to participate in the study by directors of the schools. Being a foreigner, I faced language barrier to directly interact with the participants. Therefore, English version of the questionnaire was translated into Czech language and responses were further translated into English from Czech by Prof. Marie Černá.

3.8 Research Validity

3.8.1 Validity and Reliability

‘Validity refers to the appropriateness, meaningfulness, and usefulness of the inferences researchers make based on the data they collect, while reliability refers to the consistency of these inferences over time, location, and circumstances’ (Fraenkel & Wallen, p. 462, 2006). Validity is an important key to effective research. In quantitative research validity can be improved through careful sampling, appropriate instrumentation and appropriate statistical treatments of the data (Cohen, 2007).

As the questionnaire was partly developed on the basis of literature review and partly from the questionnaire used in study conducted by Mc Gregor and Elaine Cambell in relation with autism spectrum disorders and teachers' attitude, it was important to establish validity and reliability.

Validity of the questionnaire can be affected by the wording of the questions it contains and poor sequencing of questions or confusing structure or design of the questionnaire. (Gray, 2004).

Therefore, in the study, first version of questionnaire was presented in a team of five members consisting of four peers and research supervisor. Necessary changes were made after review. The second version was reviewed by the experts almost three times. Recommendations from them were incorporated into the survey instrument in terms of selecting and wording of the statement and overall design.

Designing items based on the review of professional literature addressed the content validity of the modified survey instrument. Face validity of the instrument was refined by research supervisor PhDr. Iva Strnadová, Charles University. In addition, a highly experienced educator, Prof. Marie Černá, Charles University reviewed the revised items and confirmed the face validity of the questionnaire.

To attain reliable information, I have made use of questionnaire using the same format of questions for each participant. Another way of ensuring reliability in this research was by ascertaining that each participant understood the same questions in the same way and was enabled to give clear and true response. To get participants' true response, they were explained the rationale and significance of the study in their native language (Czech language) before distribution of the questionnaire. Apart from this questionnaire contained the rationale and purpose of the study.

3.8.2 Triangulation

According to Robson (p. 293, 2002) views, attitudes, belief or opinion is not possible to assess by means of a single question or statement. Therefore, having a set of ten or twenty items is another form of triangulation. The response to each statement gives extra information about the respondents' ideas, views or attitudes or knowledge and putting the responses enables the researcher to have much fuller picture. Thus, each section of the questionnaire contained sub sections to examine the participants' knowledge and views from different angles. Furthermore, the questionnaire contained close ended and open-ended questions to give participants the choice of adding extra information.

The original draft of questionnaire was in English, which was translated into Czech for consideration that most of the target population do not speak and read English. After that the Czech version of the questionnaire was retranslated into English to check consistency with the original draft. This process was considered as part of triangulation work which was important to ensure validity and reliability of the research.

3.9 Ethical issues

Research is an activity that involves great deal of interaction between the researcher and the researched. 'Since, research in the social world inevitably deals with people and the things that affect them, ethical issues can arise at the planning, implementation and reporting stages of the research' (Gray, p. 58, 2004). In research study, participants have right for privacy, respect, dignity and self determination and on the other hand researcher has right to know what exists. All the participants have the right to withdraw for any reason. If they take part, they have to feel free to report inefficiency or malpractice.

As Reynolds (1979) states, ethics refers to rules of conduct and conformity to a code or set of principles. Hence, in social research, researcher should follow a code of conduct that ensures interests and participants will not be harmed in any way. For the present study to find the teachers' awareness of strategies to improve social interaction among children with autism, several key points regarding research ethics are considered.

Democratic value

Every participant, involved in this research, was treated equally regardless of age, sex, religion, race, political beliefs and life style or any other significant difference between the participant and researcher, or between the participants themselves.

Informed consent

Informed consent was obtained from all the participants. The LSU and LS group was involved in research while they attended class in the Charles University. All participants were informed about the aim of the research, importance of study, who will be undertaking it, their participation is voluntary, what kind of information is being sought and anonymity of respondents will be preserved. Information was shared verbally and through questionnaire. Teachers coming from three special schools (SK, SAS, and SSR) were contacted through the veteran educator who was highly respected in many schools in Prague. Their consent was obtained by contacting the directors of these schools.

Confidentiality & Anonymity

Confidentiality and anonymity of respondents to the questionnaire is strictly preserved by giving code to the groups which teachers belonged. Factual information like name, address, phone number and e-mail address is not asked in the research. This is a usual practice in carrying out such questionnaire-based surveys, which aims not only to protect privacy and confidentiality of the respondents, but also helps to ensure responses are objective and accurate. The name of the participants or schools are not published or used in documentation.

Promises and reciprocity

In the present study, several teachers showed interest in obtaining the final results. The results and findings of the study will be shared with them, as a gesture to express gratitude as

well. Hopefully findings of the study will be sent to them in August when the study is finished.

3.10 Limitations of the study

The result of this study should be considered in light of the following limitations encountered and observed in the investigation.

Language difficulties

As Czech is the official language in Czech Republic, most people including teachers do not speak English. The language difference created the second limitation in the data collection process. It is impossible to avoid the issue of errors in translating the questionnaire from English to Czech and responses from Czech to English. Some data might be lost or misunderstood during the process of translation. Therefore, a highly experienced educator who had good command over Czech and English language and sound background of special education was asked to translate the questionnaire and responses.

Response bias

The third limitation, most apparent in the research design, was the response bias; a tendency of participants to answer according to perceived social desirability of the response alternative (Kanussen et al., 1992 Cited in Hill et al., 2003).

Response bias could also be defined by what Draper (no date) refers to as the Hawthorne effect; that is the impact on participants' knowing themselves to be studies in connection with the outcome measure.

Time constraint

Time limitation was considered as the fourth limitation in conducting this study. Due to the time limit in data collection, only one method was used to collect the data. Therefore, the data collected using questionnaire was subjected to a narrow coverage. If another

method had been used, the data gained might yield wider knowledge to this study. Thus, possibility to triangulate the data collected from questionnaire was limited. Additionally, this time limitation was also a constraint for extending the study to large number of regular teachers. Thus, only 28 regular teachers and 62 special education teachers could be contacted to participate in the study.

Hence, recommendation based on collected data must be considered with respect to several shortcomings of the study. Due to the small sample the findings may not be generalized beyond the research group used but the results might be useful for guiding and implementing classroom strategies to enhance social interaction of children with autism in inclusive educational setting.

CHAPTER 4

ANALYSIS

4.1 Introduction

In this chapter, the collected data for this research is analyzed. In analyzing the nonparametric data (derived from questionnaire method), the focus is placed on addressing the research questions. The analysis is done by descriptive statistical method. The raw data obtained from the study was categorized to answer the research questions. The statistical analysis of data is presented through tables, charts and graphs. Therefore data is analyzed under five categories. As the background of the study, analysis of participants and demographic information is presented. This is followed by analysis of data to answer the four research questions. Therefore, data is analyzed under following categories:

- Teachers' knowledge of autism spectrum disorder.
- Teachers' views on social interaction in children with autism.
- Teachers' awareness of strategies.
- Teachers' recommendation.

4.2 Data Analysis process

Statistical analysis in quantitative research has its value. By subjecting data to statistical analysis, researcher can attain general criteria for assessing key facets of the data and reduce subjective interpretation of the data (Denscombe, 2003). As researcher, statistical analysis helped me to draw upon scientifically based tests to bolster the interpretation and belief in the data, especially while describing the frequencies and percentages and looking for connections between categories in the data.

For statistical analysis, collected raw data was organized through coding and categorization and further presented through graphs, charts and tables. The results obtained were described. Hence, data analysis process consisted of following steps:

4.2.1 Preparing quantitative data for analysis

In the study, nonparametric (nominal) data was obtained through questionnaires. Nonparametric data makes no assumption about the participants of the study because the characteristics of the population are unknown (Cohen et. al. 2007). To prepare raw data for analysis, following steps were taken:

- The raw data was transformed into numbers (frequencies) and percentages through coding for quantitative analysis. ‘Coding entails the attribution of a number to a piece of data, or group of data, with the expressed aim of allowing such data to be analyzed in quantitative term’. (Dencombe, p..)
- The participants of the study were also coded for purpose of referencing.
- The data was grouped or categorized to answer the four research questions.
- The organized raw data was fed into the computer for further statistical analysis and presentation through tables, graphs and charts. For statistical analysis, Microsoft Excel 2003 program was used.

4.2.2 Presentation of the data

To present data in a meaningful way, it was transformed into tables, charts and graphs by using Microsoft Excel 2003 program. The transformation of mass raw data into tables, charts and graphs is vital as part of making sense (Denscombe, 2003). The transformation of data is defined as ‘a process of artfully moulding, extracting and refining the raw data, so that the meaning and significance can be grasped’ (Denscombe, p...2003). The meaning of data presented in graphs, charts and tables are described in next section.

4.3 Analysis of the participants

The participants of the study were 28 mainstream teachers and 62 special education teachers from various cities in Czech Republic. Mainstream teachers were asked to fill all five sections (A, B, C, D and E) of the questionnaire whereas special education teachers were asked to fill section A (Demographic information) and section B (Recommendation).

The participating teachers belonged to five different groups. These groups were coded as LSU, LS, SK, SSR, and SAS. The LSU group consisted of mainstream teachers who are enrolled in a Life long education program for teachers who already have university degrees. The LS group consisted of special education teachers enrolled in a Life long education program who completed their education on high school level and need to gain so called “educational-minimum” for their work. Both LSU and LS teachers are from various cities in the Czech Republic.

The SK group includes special education teachers who work in one kindergarten in Prague, for children with intellectual disabilities and autism, while the SSR group comprises of special education teachers from one basic school for children with specific learning disabilities and behaviour problems in Most. The SAS group includes special education teachers from one basic special school located in Prague. Therefore, LSU group was asked to respond to all sections in questionnaire whereas LS, SK, SSR and SAS were asked to respond to only section A (demographic) and section E (recommendation).

Table 1 presents the number of regular and special education teachers by groups they belonged.

Table 1: Participants of the study

Groups	Number of teachers
LSU (Regular teachers)	28
LS (Special education teachers)	47
SK (Special education teachers)	5
SSR (Special education teachers)	5
SAS (Special education teachers)	5
Total	90

4.4 Analysis of Data

While analyzing the data, answers to the four research questions were developed.

Q1. What do mainstream teachers know about Autism Spectrum Disorder?

Q2. What is mainstream teachers view on social interaction ability of Children with Autism?

Q3. What do mainstream teachers know about strategies to enhance social interaction among children with autism in inclusive educational setting?

Q4. What do mainstream and special education teachers recommend for implementation of strategies to improve social interaction in Children with Autism.

To answer these questions, the data was analysed under five distinct categories: demographic information, teachers' knowledge of autism, teachers' views on social interaction in children with autism, teachers' awareness of strategies and teachers' recommendation.

4.4.1 Demographic information (Appendix 3)

As the background of research participants, demographic information included items dealing with age and work (occupational characteristics) related questions.

Age

The age was divided into four groups, that is, 20-29 years, 30-39 years, 40-49 years and 50-59 years. Information pertaining to age of the mainstream teachers and special education teachers is given in Table 2.

Table 2: Age group of mainstream and special education teachers

Age groups	Mainstream teachers (Total: 28)		Special education teachers (Total: 62)	
	Frequency	Percentage	Frequency	Percentage
20-29 years	6	21%	14	23%
30-39 years	13	46%	14	23%
40-49 years	5	18%	26	42%
50-59 years	4	14%	8	13%

Majority of mainstream teachers are between 30-39 years old (n=13, 46%). Lowest number of mainstream teachers were between 50-59 years old (n=4, 14%). Six teachers (21%) belonged to 20-29 years age group and five (n=5, 18%) were between 40-49 years old.

Greater number of special education teachers were between 40-49 years old (n=26, 42%). Equal number of special education teachers were between 20-29 and 30-39 years old (n=14, 23%). Around eight (13%) special education teachers were from 50-59 years old.

From the given data, it can be concluded that research participants represented diverse age groups. On combining the data from first two age cohorts, it was found that majority of mainstream teachers (n=19, 67%) and special education teachers (n=28, 46%) were between 20-39 years old.

Occupational (work) characteristics

The work related questions consisted of educational level (Educational high school, Bachelor in education, Masters in education and others), the number of years each teacher has taught in the school (0-5 yrs, 6-10 yrs, 11-15 yrs, and more) and experience with children with autism (Yes/ No). Information pertaining to occupational characteristics is presented in Table 3.

Table 3: Occupational characteristics of mainstream and special education teachers

Occupational Characteristics	Regular teachers (Total: 28)		Special education teachers (Total: 62)	
	Frequency	Percentage	Frequency	Percentage
Educational level				
Pedagogical high school	0	0	30	48%
Bachelor in education	1	4%	7	11%
Masters in education	23	82%	13	21%
Others	4	14%	12	19%
Teaching experience (years)				
0-5 years	13	46%	21	34%
6-10 years	3	11%	11	18%
11-15 years	9	32%	20	32%
More	3	11%	10	16%
Experience with children with autism				
Yes	4	14%	26	42%
No	24	86%	36	58%

As shown in Table 2, twenty-three (82%) mainstream teachers reported having Master degree in Education, one (4%) had Bachelor degree in Education and four (14%) reported to hold other qualification. Majority of special education teachers (n=30, 48%) had Pedagogical high school.

Participants were asked to indicate the number of years of teaching experience. Majority of mainstream teachers (46%, n=13) had 0-5 years of teaching experience and nine mainstream

teachers (32%) reported to have 11-15 years of teaching experience. Twenty-one special education teachers (34%) had 0-5 years of teaching experience and twenty (32%) special teachers had 11-15 years of teaching experience.

The participants were asked if they had any experience with children diagnosed with autism spectrum disorder. As shown in the Table 3, twenty-four (86%) mainstream teachers and thirty-six special education teachers (58%) did not have any experience with children with autism. Only four (14%) mainstream teachers and twenty-six (58%) special education teachers reported having experience with children with autism.

4.4.2 Teachers' *knowledge of autism spectrum disorder (Appendix 4)*

Nineteen statements were used to identify the knowledge level of teachers about autism spectrum disorder. The statements were selected on the basis of diagnostic characteristic (DSM IV), intervention and aetiology of autism spectrum disorder.

Respondents were asked to tick mark the true statements. To examine the knowledge level, all statements were considered. Respondents were given 1 point for each correct answer and deducted 1 point for each wrong answer. Percentage of points obtained was calculated out of 13 points as maximum point can be scored was 13. Information pertaining to this analysis is shown in Table 4.

Table 4: Mainstream teachers' knowledge of autism

Points	Range	Knowledge level	Mainstream teachers	
			Frequency	Percentage
1 to 3	8%-23%	Poor knowledge	5	18%
4 to 6	31% to 46%	Good knowledge	3	11%
7 to 9	62% to 69%	Fair knowledge	9	32%
10 to 13	77% to 100%	Excellent knowledge	9	32%
	N/A	Not answered	2	7%
	Total		28	

The majority (32%) of regular teachers scored excellent and fair point (n=9). Poor score was obtained by 18 % (n= 5) and only 11% of regular teachers obtained good score. Small number of teachers, that is 2% (n= 7) did not answer section B (Teachers' knowledge) of the questionnaire.

Majority of teachers could state correctly that;

- autism is congenital (statement 3) (n=22);
- Children with autism exhibit poor social interaction skills (statement 7) (n=22);
- at times, severe temper tantrums and episodes of aggressive behaviour may occur (statement 9) (n=21);
- repetitive behaviours, such as fixating on certain objects or repetitive hand motions may be observed (statement 10) (n=21);
- children with autism may display a rigid need for routine and structure (statement 11) (n=20);
- and autism is a result of neurological dysfunction caused by undetermined factors (statement 19) (n=19).

However, there was more confusion with statements related to aetiology of autism, that is, autism spectrum disorder is a biological disorder (statement 16) and autism spectrum disorder is an emotional illness (statement 17). Around 3 regular teachers marked autism as biological disorder as true, 2 teachers marked it as false and 2 teachers changed the statement from 'biological' to 'neurobiological'. Similarly, around 5 teachers marked autism is emotional illness as false and 4 teachers marked it as true. None of the teachers marked statement 2 as true, that is, Autism can be cured.

Finally, from the given data it can be concluded that majority of regular teachers are aware of autism spectrum disorder. By combining the number of participants who scored fair and excellent knowledge, it was found that eighteen mainstream teachers (64%) had fair and excellent knowledge of autism spectrum disorder.

4.4.3 Teachers' views on social interaction in children with autism. Appendix 5)

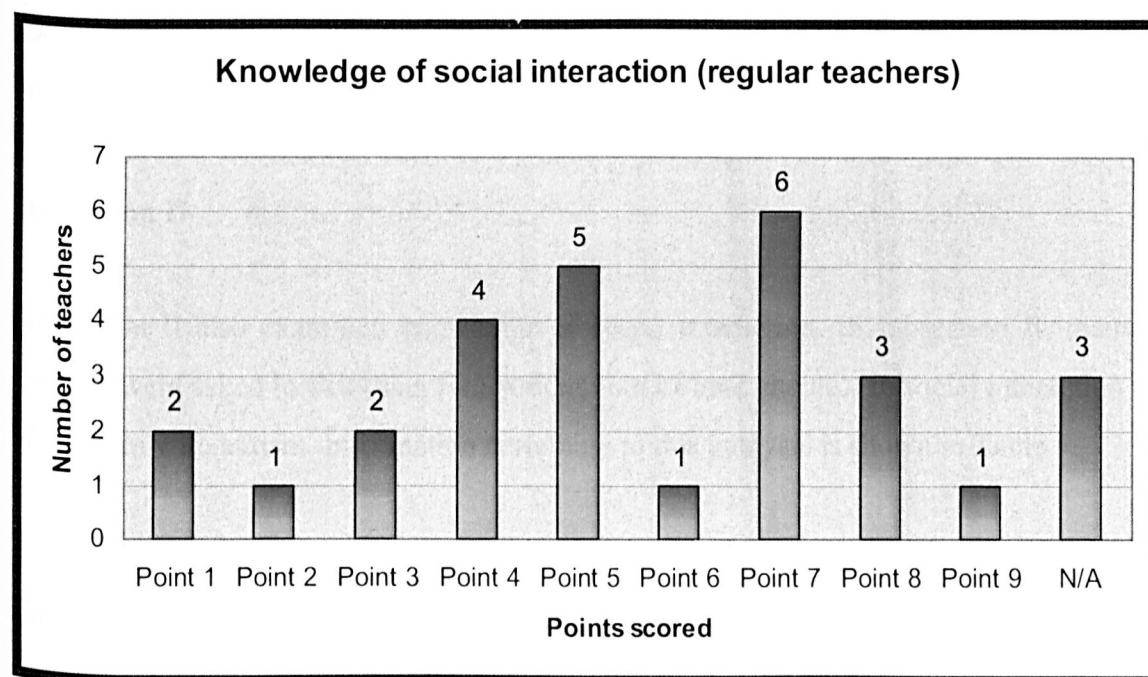
To explore teachers' view on social interaction, section C (Teachers' view) of the questionnaire consisted of 7 subsections. Two subsections examined knowledge of social interaction, two examined knowledge pertaining to intervention and three subsections were related to classroom setting and teachers' role in the classroom.

Subsection 1

In subsection 1, there were 10 statements to examine teachers' knowledge about social interaction ability in children with autism. Out of 10 statements, 9 statements were true and 1 statement was false. Teachers were asked to tick mark true statements. Each true statement was allocated point 1. Hence maximum point that could be achieved was 9.

For each correct marking, mainstream teachers scored 1 point and for each incorrect marking, 1 point was deducted. Therefore, information pertaining to knowledge level of mainstream teachers about social interaction in children with autism is presented in Graph 1.

Graph 1: Mainstream teachers knowledge of social interaction (part 1)



Highest point scored was 7. Total 6 (25%) regular teachers scored 7 points, 5 (18%) scored 5 points and 4 (14%) scored 4 points. On combining the number of teachers who scored 5 points and above are 16 (57%). Therefore, majority of regular teachers (57%) scored above 5 points (above 50% points), therefore, it can be stated that teachers are aware of social interaction ability of children.

Four statements related to social interaction was marked by majority of teachers, that is,

- social interaction is impaired in children with autism (statement 1) (n=20);
- while social interaction is severely affected, not all aspects of social behaviour are equally impaired (statement 2) (n=16);
- social interaction in children with autism can be improved (statement 3) (n=17) and;

- social interaction impairment means failure to develop peer relationships appropriate to development level.

Out of 28 regular teachers, 4 (14%) did not answer this section. None of the teacher marked the only false statement as true, that is, promoting social interaction among children with autism is not important (statement 4). This shows clarity in teachers' knowledge of social interaction among children with autism.

Subsection II

Subsection II also examined knowledge of social interaction. In subsection II, mainstream teachers were asked to tick main five deficits (out of nine choices) in social interaction ability of children with autism. Information pertaining to this analysis is shown in Table 5.

Table 5: Mainstream teachers' knowledge of social interaction (part II)

Deficits in Social interaction in children with autism	Frequency	Percentage
Imitation *	9	32%
Hand shakes	5	18%
Initiation of social contact *	18	64%
Language*	18	64%
Saying bye-bye	7	25%
Eye contact*	22	79%
Joint attention*	18	64%
Capacity to be aware of other person	15	54%
Mental states	16	57%

** These are five main deficits in social interaction of children with autism which regular teachers were supposed to mark.*

Majority of regular teachers could mark 4 correct options (deficits), that is,

- initiation of social contact (n=18, 64%),
- language (n=18, 64%), eye contact (n=22, 79%) and
- joint attention (n=18, 64%).

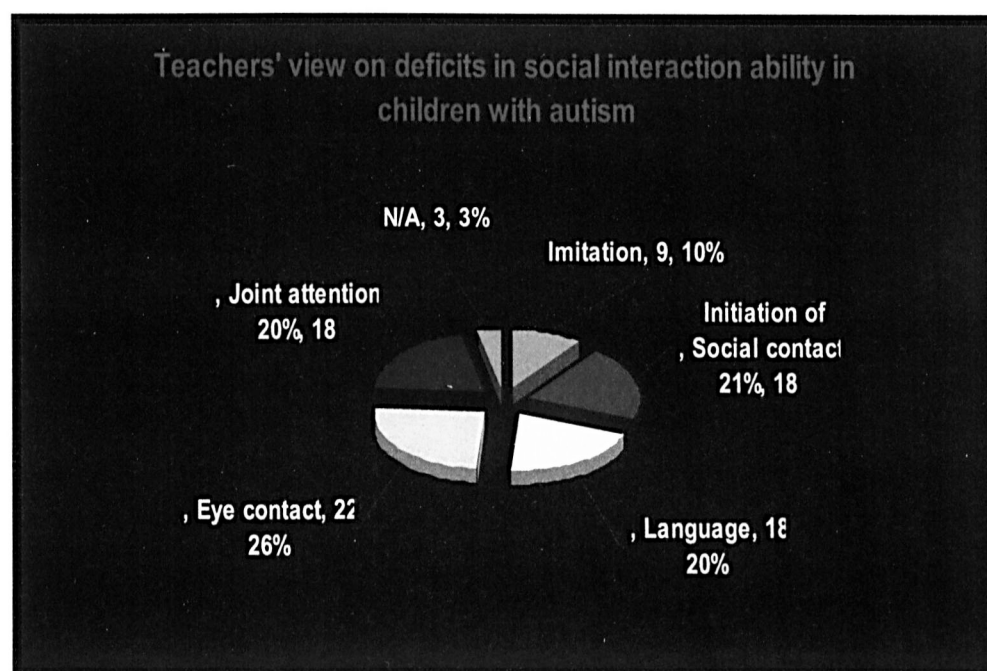
- The fifth correct option that is 'imitation' was marked by 9 (32%) mainstream teachers.

Out of 28 regular teachers, 3 did not answer (10%) and 2 teachers marked all the five correct options (7%).

Options like 'hand shake', 'saying bye-bye', 'mental states' and 'capacity to be aware of other person' was added to examine the clarity of view of mainstream teachers. As shown in the Table 5, around five (18%) mainstream teachers view hand shake as deficit in social interaction ability in children with autism. Furthermore, fifteen (54%) teachers view 'capacity to be aware of other person' and sixteen (57%) view 'mental states' as limitation in social interaction ability of children with autism.

As regular teachers were expected to identify the five main deficits in social interaction development of children with autism, therefore, number of teachers who marked main deficits in social interaction of children with autism is shown in Graph 2.

Graph 2: Teachers' view on deficits in social interaction ability in children with autism

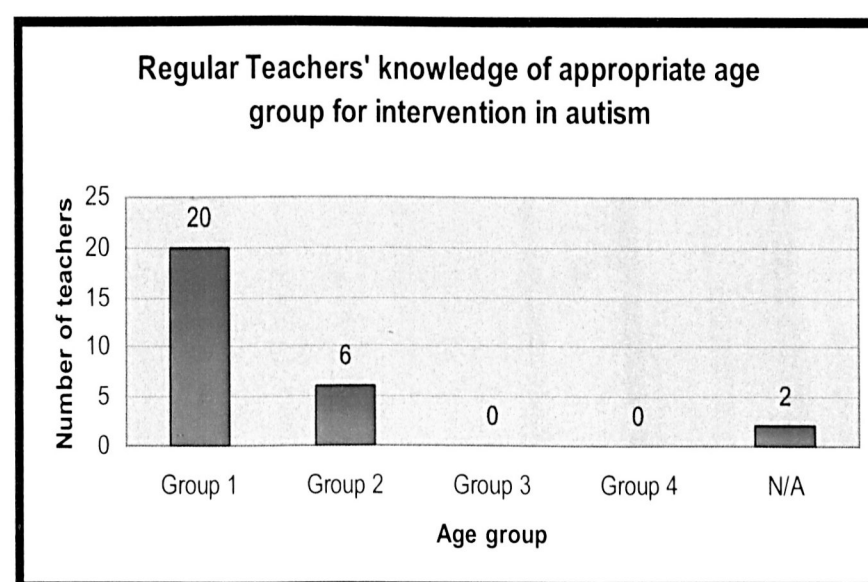


Therefore, results obtained in subsection I and subsection II can be concluded that although mainstream teachers' views on social interaction in children with autism shows clarity of knowledge in majority of teachers but there is confusion regarding deficits in social interaction ability of children with autism. Around 16 (57%) teachers view 'mental states', 5 (18%) teachers view 'hand shake', and 7 (25%) teachers view 'saying bye-bye' as deficits in social interaction ability of children with autism.

Subsection III

In subsection III, teachers were asked to indicate the appropriate age group to begin intervention in children with autism to improve social interaction. Information pertaining to this analysis is shown in Graph 4. Majority of teachers (n=20, 71%) marked Group 1 (0-6 years) as correct response. Only 6 teachers (21%) marked incorrect response, that is, Group 2 (6-12 years) and 2 teachers (7%) did not answer this part (subsection III) of the questionnaire. None of the teachers marked Group 3 (12-18 years) and Group 4 (18 above) as the correct option.

Graph 3: Regular teachers' knowledge of appropriate age group for intervention



Therefore from the above statistical analysis it can be interpreted that majority of regular teachers are aware of the importance of early years to begin intervention to enhance social interaction among children with autism.

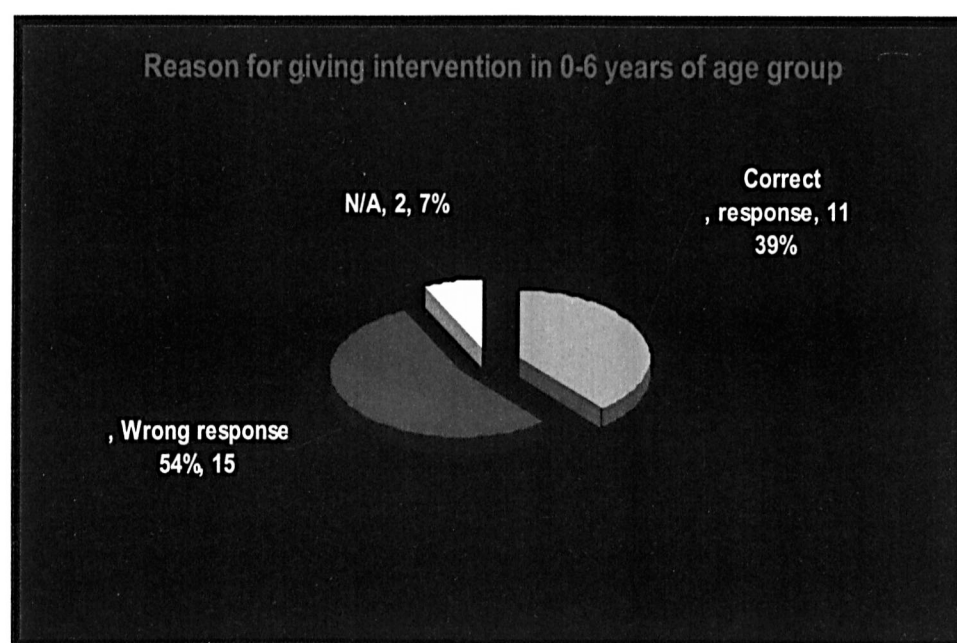
Subsection IV

This was multiple choice questions where teachers were asked to tick appropriate statements as correct response, that is, Children's brain is still developing and learning capacity of children with autism is high in this age group.

Although majority of teachers (71%, n=20) (from subsection III) marked correct response for most appropriate age group to begin intervention to improve social interaction in children with autism but only 11 regular teachers (39%) could mark the right answer and 15 teachers (54%) gave incorrect response as reasons for giving intervention in 0-6 years age group.

From this it can be concluded that regular teachers are aware of importance of early years for enhancing children's learning but they are not aware of the neurological basis for giving intervention in early years of children's life.

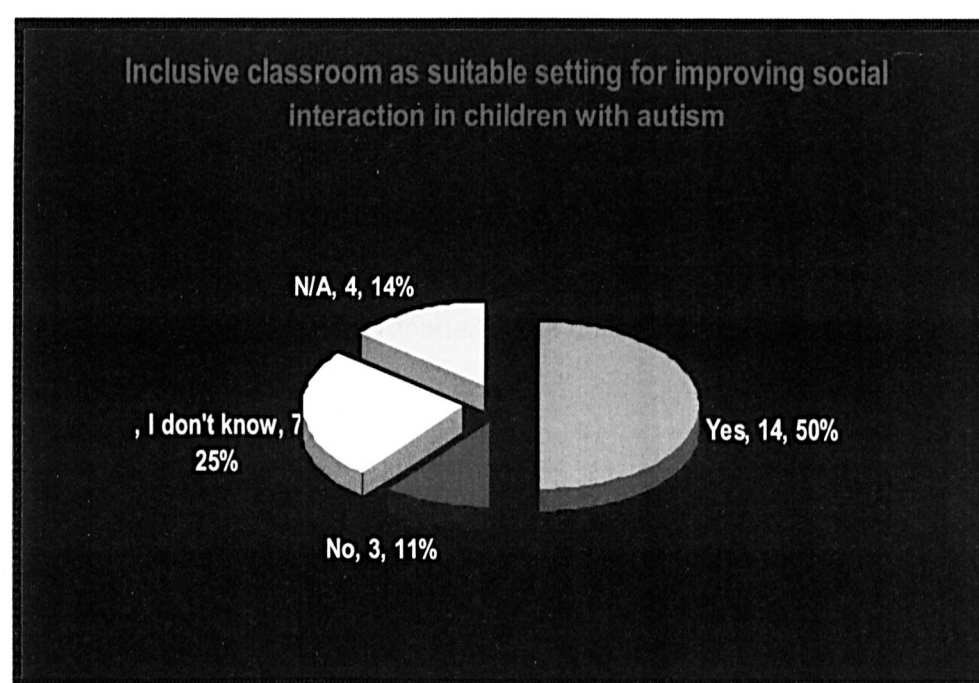
Chart 1: Teachers' response to reasons for giving intervention in 0-6 years of age group



Part V

As inclusive setting is apt for improving social interaction among children with autism. Majority of strategies designed to encourage social interaction among children with autism are meant to be carried out in inclusive setting. Therefore, regular teachers' views were explored on appropriateness of inclusive setting for children with autism.

Chart 2: Teachers' opinion on inclusive classroom as appropriate setting



Around 14 (50%) regular teachers stated 'yes' and only 11 (3%) said 'no'. Seven (25%) regular teachers said 'I don't know' and 4 (14%) did not respond.

Therefore, the findings of data shows that teachers are aware of the importance of interaction between children with autism and their peers without autism as inclusive educational setting provides opportunity for children with autism to socially interact with peers without special educational needs.

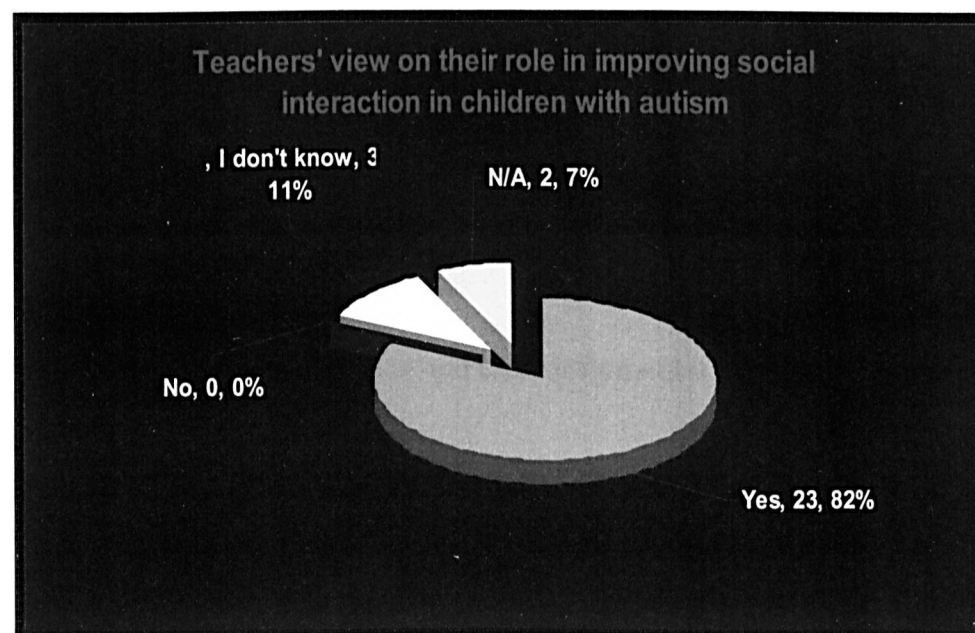
To examine the teachers view on intervention to improve social interaction, responses from subsection III, subsection IV and subsection V are considered together. Therefore, results obtained from subsection III, IV and V, it can be concluded that mainstream teachers view early years (0-6 years) in children's life as crucial to begin intervention to encourage social

interaction by children with autism but there is lack of knowledge of neurological reason for giving enrichment program (intervention) in early years. Furthermore, majority of teachers agree that inclusive classroom setting is appropriate for social integration of children with autism.

Subsection VI

In subsection VII, whether teachers view their role as important in encouraging children to interact socially in inclusive classroom, was explored. Majority of regular teachers (n=23, 82%) agree that their role as teacher is important in improving social interaction of children with autism in inclusive setting. It is interesting to find that none of the teacher responded 'no' to this question. Three teachers reported some doubt by responding 'I don't know' and 2 teachers did not answer.

Chart 3: Importance of mainstream teachers' role in inclusive setting



Subsection VII

To know how teachers view their role in encouraging social interaction among children in the class, teachers were asked to mark their role in classroom setting. Majority of teachers (n=12, 43%) reported that main role are setting the environment and in planning activities. Nine teachers (32%) reported encouraging children without special needs to take initiative to interact with children with autism would help. Only 1 teacher marked other and 1 regular teacher did not answer the question.

Table 6: Mainstream teachers role in enhancing social interaction in children in inclusive setting

Mainstream teachers' views	Frequency	Percentage
Setting the environment	12	43%
Planning activities	12	43%
Asking children without special educational needs to initiate interaction with children with autism	9	32%
Other	1	4%
N/A	1	4%

Although teachers were given choice to add extra information but none of the teachers added any information.

From subsection VI and subsection VII, it can be interpreted that in majority of mainstream teachers' opinion, their role is important in classroom to encourage social interaction between children with autism and children without special educational needs. Most of the mainstream teachers view their role as important in setting appropriate environment and planning relevant activities for effective social integration of children.

Therefore, to answer the research question 2 (teachers' view on social interaction in children with autism), conclusion can be drawn under three categories, that is, teachers' knowledge of social interaction, teachers' view on intervention in children with autism, and teachers view on their role in enhancing social interaction in children with autism. Mainstream teachers have clear understanding of social interaction in children with autism but there is confusion in relation with deficits in social interaction by children with autism. According to majority of mainstream teachers, intervention should begin between 0 to 6 years of age but teachers do not have fair idea of why intervention should begin in this age group. To give intervention in classroom environment, majority of mainstream teachers agree that they play crucial role and majority of them find their role in setting classroom environment such that children with autism and children without special educational needs get ample opportunity to interact. Teachers also find their role important in planning classroom activities to encourage both, children with autism and their peers without special educational needs to socially integrate in school setting.

4.4.4 Teachers' awareness of strategies (Appendix 6)

Section D explored Teachers' awareness of strategies. Section D comprised of three subsections. Subsection I consisted of five statements about intervention in relation to social interaction in children with autism. In subsection II teachers were asked to write about strategies that they were acquainted with in support of improving social interaction among children with autism. Finally, subsection III had multiple choices where teachers were asked to tick mark the challenges in implementing classroom strategies.

In Subsection I teachers were asked to tick mark appropriate statements about intervention in children with autism. It consisted of 5 statements. Out of five statements, four were true and one was false statement. The result obtained from subsection I is presented in Table 7.

Table 7: Mainstream teachers' understanding of intervention for children with autism

Statements	Frequency	Percentage
*All children with autism can be given same intervention to enhance social interaction.	3	11%
Intervention should be child-centered.	14	50%
Teachers play important role in encouraging social interaction among children	14	50%
Teachers should be familiar with evidence-based strategies to improve social interaction	14	50%
Strategies should be modified according to situation	21	75%
N/A (Not answered)	2	7%

* False statement

The false statement, that is, 'all children with autism can be given same intervention to enhance social interaction' was marked by 3 (11%) regular teachers. Majority of teachers (n=21, 75%) marked that strategies should be modified according to situation. Around 14 (50%) teachers marked that 'intervention should be child-centered', 'Teachers play major role in encouraging social interaction among children' and 'Teachers should be familiar with evidence-based strategies to improve social interaction'.

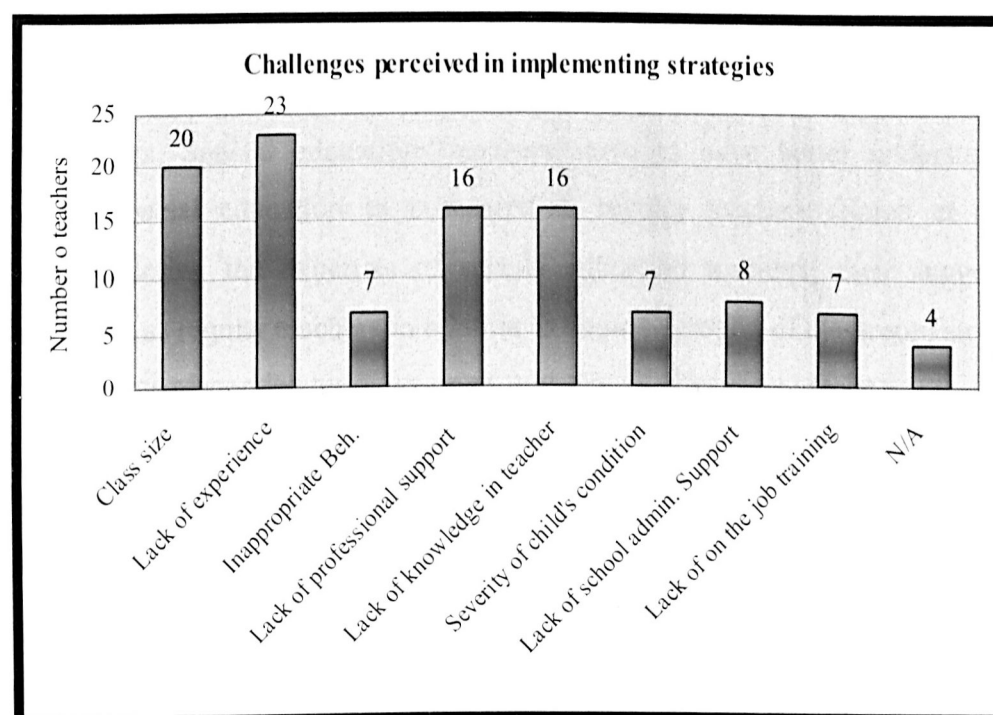
Therefore, results show that teachers do have idea about characteristics of intervention plan for children with autism like 'child-centered' and 'evidence-based strategies'. From the data, it can be concluded that 50% (n=14) could mark all four true statements.

In subsection II, teachers were asked to write classroom strategies that they were familiar with, to improve social interaction among children with autism. Only three teachers wrote 'I don't know' and rest of the 25 mainstream teachers did not answer subsection 2.

In subsection III, participants were asked to tick mark and write challenges in implementation of classroom strategies to enhance social interaction among pupils with autism. Teachers

were given eight choices to tick mark and space to add more information. The data obtained from subsection 3 is displayed in Graph 4.

Graph 4: Challenges perceived by mainstream teachers in implementation of strategies.



Majority of regular teachers perceive lack of experience (n=23), class size (n=20), lack of professional support (n=16) and lack of knowledge in regular teachers (n=16) as main challenges in implementing strategies in classroom. However, few teachers do find inappropriate behaviour (n=7), severity of child's condition (n=7), lack of school administration support (n=8) and lack of on-the-job training (n=7) as challenges. Out of 28 teachers, 4 regular teachers did not attempt this part of questionnaire. None of the teachers gave any extra information.

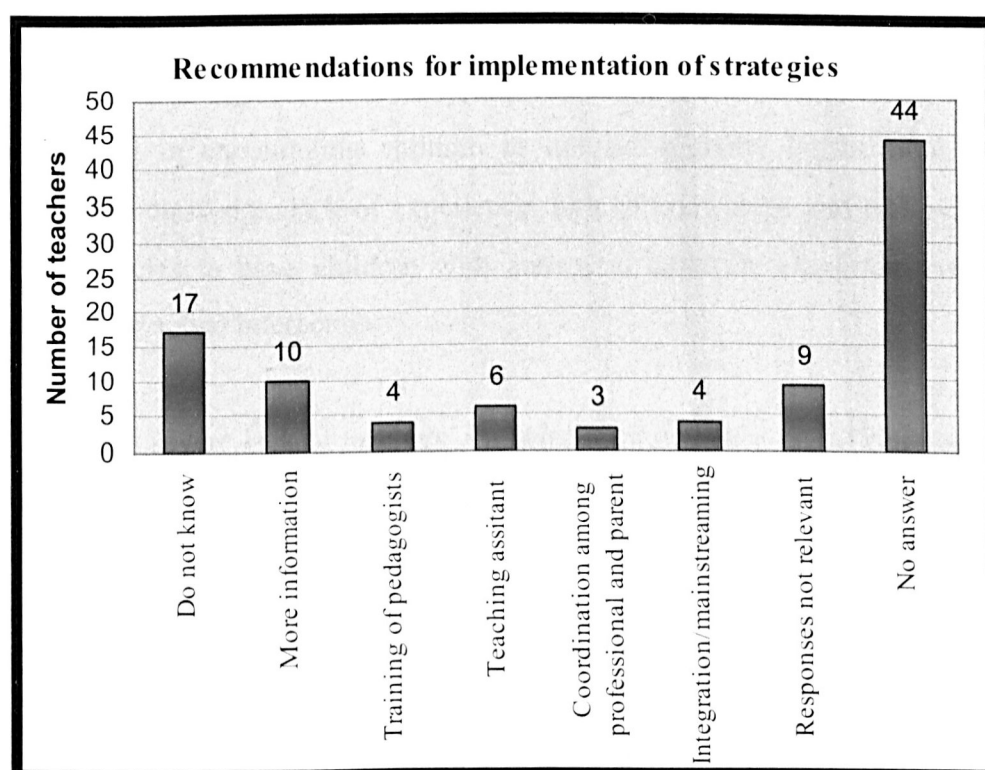
Results from section D shows that mainstream teachers are aware of characteristics of intervention plan and its importance for children with autism. Mainstream teachers perceive

class size, lack of experience, lack of knowledge and lack of professional support as major obstacles to have children with autism in inclusive classroom and implement strategies for their social interaction. Therefore, though teachers are aware of importance of early intervention and challenges in giving intervention in inclusive educational setting but they severely lack in knowledge of strategies to encourage social interaction among children with autism.

4.4.5 Teachers' recommendation.(Appendix 7)

The section E of the questionnaire was designed for regular teachers as well as special education teachers. Special education teachers seem to have better understanding and knowledge of special education as compared to regular teachers (Sarah et al., 1999). Therefore, considering the expertise of special education teachers, their suggestion was equally important as regular teachers in relation to implementation of classroom strategies. Thus, section E was responded by mainstream and special education teachers.

Graph 5: Teachers' recommendation for implementation of classroom strategies



Total 90 teachers (28 regular and 62 special teachers) participated to respond to section E of the questionnaire. Majority of teachers (n=44) did not answer this question and 17 teachers marked 'Do not know'.

Therefore, less than 50% (n=36) gave their suggestions. Ten teachers mentioned that more information about autism is required. Four teachers suggested that training of teachers will be helpful. Six teachers demanded for teaching assistants as extra hands for effective implementation of strategies. Three teachers emphasized on coordination between professional and parent for positive outcome of classroom strategies and four teachers recommended integrative or inclusive setting as better set up for implementation of strategies. Nine teachers' responses were not relevant.

4.5 Summary

In this chapter, I have presented results of the survey and briefly discussed findings based on data collected. In the first part of the chapter, I introduced the data analysis process, and demographic information regarding teachers (mainstream and special educator) who completed the questionnaire. It was found that mainstream teachers are well aware of autism spectrum disorder and social interaction development in children with autism. Teachers have positive view towards importance of early intervention in inclusive classroom and they view their role crucial in encouraging children to interact socially. Furthermore, mainstream teachers perceive class size, lack of experience, lack of knowledge and lack of professional support as obstacles to have children with autism in inclusive classroom and implement strategies for their social interaction.

However, there is severe lack of teachers' knowledge of evidence-based classroom strategies to enhance social interaction among children with autism in Czech Republic. In addition, mainstream teachers and special education teachers recommend improvement in mainstream teachers' knowledge. In teachers' view training of pedagogists, recruitment of more teaching assistants, coordination between parents and teacher, and more integration or mainstreaming

of children with autism would help mainstream teachers to learn and implement classroom strategies to encourage social interaction in children with autism.

For this argument, supporting evidence can be found from the survey results as illustrated in this chapter. In the next chapter, I will evaluate the results of the investigation in context of the review of literature.

CHAPTER 5

EVALUATION

5.1 Introduction

This chapter presents the evaluation of the findings based on the data analysis done in the previous chapter. In this chapter, research moves from description to the inference. The evaluation of data analysis presents an attempt to answer the research questions raised at the beginning of the research. Findings are evaluated against reviewed literature and research questions. This chapter concludes with a summary of discussion on the findings.

5.2 What do mainstream teachers know about Autism Spectrum Disorder? (Table 4)

It is imperative that today's mainstream teachers have the knowledge and skills to provide children with autism a meaningful education program in inclusive school setting. Marked deficits in teachers' knowledge level of autism spectrum disorder could seriously impact the quality of educational programs for pupils with autism spectrum disorder (Whaley, 2001).

In this study, 19 statements (in questionnaire) were used to assess the knowledge level of autism in regular teachers in Czech Republic. Out of 19 statements, total 13 statements were true (correct) which teachers were asked to mark. Statement 1, 3, 5, 6, 7, 8 and 15 were related to characteristics of autism. Statement 9, 10 and 11 were related to behaviour in children with autism and statement 13, 17 and 20 were associated with aetiology of autism.

The analysis of data shows that majority of regular teachers are aware of autism spectrum disorder. Almost eighteen regular teachers (64%) scored such that their knowledge came in 'fair and excellent' category. It was interesting to note that more than 50 % teachers marked 11 true statements. Overall, the result of the findings was in alignment with the present literature, that is mainstream teachers are aware of autism spectrum disorder. But teachers do have some confusion regarding the aetiology of autism, that is, autism spectrum disorder is a

biological disorder (statement 16) and autism spectrum disorder is an emotional illness (statement 17). Around 3 regular teachers marked autism as biological disorder as true, 2 teachers marked it as false and 2 teachers changed the statement from 'biological' to 'neurobiological'. Similarly, around 5 teachers marked autism is emotional illness as false and 4 teachers marked it as true. The findings from research conducted in US, Scotland and Greece indicate that the regular teachers were familiar with the notion of the 'autistic continuum' and the distinct identity of autism (Mavropolou and Padelidu, 2000; Whaley, 2002; McGregor and Campbell, 2001). The analysis of findings of the study conducted by Mavropoulou and Padelidu (2000) also revealed some confusion regard to the causes of the syndrome in regular teachers.

According to the research (McGregor and Campbell, 2001) conducted in Scotland with regular teachers, the factor that influences teacher's knowledge and perception of autism is their encounter with children with autism during their teaching practice. But in this study, only 4 (14%) regular teachers had some experience with children with autism. Therefore, this reason cannot be attributed to the outcome of the findings. Here regular teachers' background is important to consider as 23 (82%) regular teachers had Masters in education degree and all (n=28, 100%) are enrolled in Life long education program for teachers who already have university degree. This program is designed to widen regular teachers' competencies to work with both children with special education needs and children without special education needs. Therefore, mainstream teachers who participated in the study have special education background which has definitely influenced the knowledge level of teachers.

5.3 What is mainstream teachers' view on social interaction ability of Children with Autism? (Graph 1)

Social interaction means, exchange of acts or actions between people involved in it who are mutually oriented towards each other's selves. Thus, child develops in great part as a function of the environment he lives in and the kind of relationships he has with people.

Children's desire to interact with peers and adults in early years is a foundation for developing social competence. For typically developing children engaging in socially interactive activity is part of natural development. In contrast, ability to abstract meaning from social interactions is less developed in autistic children and has been an important goal of early intervention (Bruinsma, Koegel and Koegel, 2004). Children with autism spectrum disorder display delays or difficulties in many aspects of communication (Wetherby et al., 2000 cited in Keen, Rodger, Doussin, Braithwaite, 2007). Thus, in literature, social interaction impairment in children with autism is widely recognized.

To devise or implement evidence-based strategies in inclusive classroom, it is crucial for regular teacher to have sound understanding and knowledge of social interaction development in children with autism. With this understanding, regular teachers' views were assessed regarding social interaction in children with autism. It was found that mainstream teachers in this study have fair knowledge of social interaction in children with autism. Twenty teachers were familiar with the fact that social interaction is impaired in children with autism. Majority of teachers have clear understanding of social interaction impairment as teachers (n=19) agreed to the fact that social interaction impairment means failure to develop peer relationships appropriate to developmental level and some (n=15) teachers also knew that social interaction impairment means lack of social or emotional reciprocity (Table 5). Around 17 teachers agreed that social interaction in children with autism can be improved. Therefore, from the result of the study it can be inferred that mainstream teachers in Czech Republic has good understanding and awareness of social interaction in children with autism. Furthermore, the regular teachers understanding of the level of social interaction in children with autism allows a teacher to consider where children are operating and teacher can devise classroom strategies to scaffold children's social and cognitive learning according to their competency level (Walker and Berthelsen, 2008)

In recent years, there has been an increasing interest in early social communicative abilities in children with autism and numerous deficits have been found (Ozonoff and South, 2001 cited in Liebel et al., 2008). Especially, joint attention, eye gaze, play, initiation of social contact and imitation abilities are seen to be very important in the social and cognitive development

of the young child (De Keen et al., 2007; Liebal et al., 2008). In the study, the mainstream teachers view on deficits in social interaction was also assessed. Results shows that more than 50% mainstream teachers view joint attention, eye contact, imitation, language and initiation of social contact as deficits in children with autism.

Results of the findings can be correlated with background of the participants (regular teachers). Although the participant teachers did not have considerable experience with children with autism but as majority of teachers have up to 10 years of teaching experience and have Masters degree in education and in addition, they are enrolled in Life long education program to learn more about special educational needs, mainstream teachers in Czech Republic have good understanding of social interaction and its limitations in children with autism.

To get maximum positive benefit from intervention program (strategies), it should be administered at right age. Therefore, teachers were asked the appropriate age group to start intervention for social interaction development in children with autism. The result of the study showed that 20 regular teachers (71%) view birth to six years as the crucial age group to initiate interventional program. This result was in line with existing literature.

The early years of child's life are very important as children grow quickly and have so much to learn during early years. Children with autism appear most able to benefit when intervention is begun very early, between ages 2 and 4, making far more progress than do older children receiving the same intervention (Lovaas & Smith, 1988 cited in Rogers, 1996; Bruinsma, Koegel & Koegel, 2004). Various authors acknowledge the need to enhance social communication skills through early intervention, as they are associated with social reciprocity, which is vital for increasing productive interactions, social behaviours and social learning. However there is great variability regarding extent to which interventions address core characteristics of social communication and few empirical data are available (Koegel, 2000; Quill, 2000, Wetherby et al., 2000 cited in Keen D. et al., 2007). Recent estimates based on children who participated in early intervention indicate that at least as many as 85% to 90% of children with autism can learn to use functional speech if intervention begins in the preschool years (Bruinsma, Koegel & Koegel, 2004). Because of plasticity to development,

early years indicate a critical period for intervention in child's life (Rogers, 1996). In the study, though 20 regular teachers (71%) admitted that birth to six years is the most appropriate age group to begin intervention in children with autism but only 11 regular teachers knew the reason for giving intervention in this age group. Majority of teachers (n=15, 54%) marked wrong answers. From this it can be inferred that there is lack of knowledge of neurological basis of child development.

As the study's key participants were regular teachers, it is relevant to discuss teachers' role in implementing strategies that too in inclusive classroom context. Therefore, section C of the study also explored teachers' view in relation with their role in accomplishing classroom strategies in order to encourage interaction among pupils with autism.

In chapter 2, the literature review brings out that one of the postulated benefits of inclusive education for children with autism is availability of children without special education needs (peers) for social interaction and play (Harrower and Dunlop G., 2001; Jahr et al 2007). But merely placement in inclusive settings is not sufficient to encourage authentic social interaction between children with autism and their peers without special education needs. Within inclusive settings, it might be considered that social integration is successful when children with autism receive support from teachers. Therefore, regular teachers' positive attitude towards inclusive education is significant. With this idea, mainstream teachers who participated in the study were asked about appropriateness of inclusive educational setting. The results of the study supports the concept that inclusive education is beneficial for encouraging social interaction among children with autism and children without special education needs as 14 (50%) mainstream teachers agree to it.

Furthermore, according to Odom and colleagues (2001) (cited in Anderson et al., 2004), if teachers promote social integration, outcome is better in terms of both, language development and increased social competence of children with autism. In the research findings of Harper and McCluskey (2003) (cited in Sue Walker and Donna Berthelsen, 2008), it was not just the level of involvement but also the nature of teacher's involvement affects the engagement of children with autism with their peers. Their findings point to the importance of increasing

teachers' understanding of whether, when, and in what contexts, to intervene in social play exchanges.

In this study, mainstream teachers agree that their role is crucial in inclusive setting to promote social interaction. Furthermore, teachers view their role as crucial in setting the environment, planning activities and encouraging children without special education needs to initiate talking with children with autism. The results were in accordance with the findings of study conducted by Walker and Berthelsen (2008) according to which teacher can help children to build relationships with peers, nurture reciprocity and scaffold sustained interactions. Therefore, from this study, it can be inferred that mainstream teachers in Czech Republic seemed more concerned with the social and psychological well being of the children with autism and they perceived their role as crucial. A study conducted by Mavropoulou & Padelidu (2000) in Malaysia had the same results where regular teachers were willing to support children with autism in inclusive and they perceived the role of the school as one of comforting, making happy, sociable and warm.

5.4 What do mainstream teachers know about strategies to enhance social interaction among children with autism in inclusive educational setting?

To answer this question, mainstream teachers were examined on their understanding of intervention in children with autism, classroom strategies that they are acquainted with and challenges perceived in executing strategies.

Intensive early intervention is crucial for holistic development of children with autism. During the formative years the typical features of autism are more evident (Howlin, 1998 cited in Helps et al., 1999). As the teachers' role is significant in providing effective early intervention to enhance social interaction and communication, teachers need to be aware of evidence-based classroom strategies. Therefore, four statements were designed based on literature review in chapter 2, to examine teachers' view on 'intervention' in children with autism. Around 50% (n=14) mainstream teachers support that their role is important in encouraging social interaction among children with autism and intervention should be child-centered and evidence-based. Twenty-one (75%) regular teachers support that intervention

strategies should be modified according to situation. Around 50% (n=14) teachers, marked all four true statements. Therefore, it can be concluded that majority of teachers are aware of characteristics of intervention in children with autism.

Furthermore, during the last few years, a number of social interaction intervention tactics and strategies for children with autism have been validated empirically (Brown et al, 2000). Evidence-based peer interaction intervention techniques have included systematic use of instructions, physical or verbal prompts, feedback mechanisms or some combination of tactics. Similarly, several successful peer interaction intervention strategies have incorporated environmental arrangement, teacher mediated, and peer-mediated strategies, has been discussed as another strategy to promote young children's peer interactions (Brown and Conroy, 2001).

In this study, mainstream teachers were asked to write strategies that they are familiar with in support of improving social interaction among children with autism. But none of the participants respond to this question. The result of the findings confirms that mainstream teachers in Czech Republic severely lack in knowledge of classroom strategies to encourage social interaction between children with autism.

During the last decades, a number of social interaction intervention tactics and strategies for young children have been validated empirically (Brown et al, 2001). Evidence-based peer interaction intervention tactics have included the systematic use of either reinforcers, instructions, prompts, models, rehearsals, feedback mechanisms, discussions, or some combinations of those procedures for improving social interactions among young children (Prizant and Wetherby, 1998). Similarly, several successful peer interaction intervention strategies have incorporated environmental arrangement, teacher mediated, and peer-mediated strategies, has been discussed as another strategy to promote young children's peer interactions (Brown and Conroy, 2001).

In spite of progress in the development and validation of intervention procedures in the field of early childhood special education, a translation of research to practice gap for social intervention has been acknowledged widely by researchers (Koegel, Koegel, Frea and Freden,

2001). For example, employing survey methods, Odom et al. (1993) found that preschool teachers reported that 74% of their students needed to improve social skills. Although the surveyed teachers believed that a variety of peer interaction interventions were acceptable and feasible, and they reported using the procedures at least to some extent in their classrooms, they also indicated a clear and continuing need for effective classroom social interaction curriculum and interventions. McConnell and colleagues (1992) asserted that the ultimate influence of social interaction interventions has been dependent on both the effectiveness of the interventions and the likelihood that practitioners will implement those interventions. The availability of empirically validated peer interaction interventions for young children, several researchers have reported that existing evidence, albeit limited, has indicated that practitioners do not employ social interactions interventions systematically and extensively (Brown et al., 2001; McConnell et al. 1992; Odom et al., 1993). According to McConnell et. al. (1992) the teachers much more likely to use less direct, classroom-wide intervention approach rather than more intensive and individualized strategies to promote children's emergent peer-related social competence. Based on existing evidence, Brown and Conroy (2001) argued that although preschool teachers genuinely value peer interaction interventions (Odom et al., 1993), they have been reticent to employ existing evidence-based intervention. In this study, the outcome shows similar results when mainstream teachers were asked to mention the strategies that they were acquainted with. None of the teachers responded to this question. Few teachers answered saying they do not know. Therefore, from the above discussion it can be concluded that mainstream teachers in Czech Republic lack in knowledge of classroom strategies to support social interaction among children with autism.

The study also explored challenges perceived by regular teachers in encouraging social interaction among children with autism. More than 50% mainstream teachers (Graph 4) perceive class size, lack of experience, lack of knowledge and lack of professional support as major obstacles to have children with autism in inclusive classroom and implement strategies for their social interaction. On combining the data, it was found that 50% (n=14) of regular teachers perceive child's severity of condition and inappropriate behaviour as challenge in executing any classroom strategy for social interaction in children with autism. These responses are in accordance with what Lopez, Kamps and Debra (1997) concludes in their

study. According to Lopez, Kamps and Debra (1997), lack of ability to develop social interaction in children with autism, it constitutes a major challenge for teachers and parents of children with autism. Therefore, child with autism frequently avoid social contact by leaving the situation, or may display negative responses in the form of disruptive behavior like aggression, tantrums, destruction of objects etc. In turn, these characteristics of autism spectrum disorder make it difficult for teachers and peers to maintain interaction with children with autism. Similarly, in study carried out by Odom et al., (1993), the perceived barriers for implementing the peer interaction intervention strategies included: the lack of teacher training, limited number of personnel available for implementing interventions, and the absence of peers without disabilities. In study by Bredekamp & Copple (1997) and Sandall et al., (2000) early childhood educators have reported that a lack of teacher training, limited personnel, insufficient teacher time needed for interventions and the availability of responsive peers without special education needs were critical barriers for early childhood educators who are willing to implement social interaction interventions.

In conclusion, teachers are aware of challenges and importance of intervention in early years but they severely lack in knowledge of classroom strategies in support of improving social interaction by children with autism. Teachers perceive child's behavior, lack of knowledge, lack of specialist support and class size as hindrance to execution of effective classroom strategies. The reason for this finding can be attributed to the background (qualification, experience with children with autism, teaching experience). Around 86% (n=24) regular teachers do not have any experience with children with autism, and 57% (n=16) have less than 10 years of teaching experience. Apart from this around 82% (n=23) teachers have Masters in Education. Therefore, it can be concluded that because of higher education degree, teachers do have theoretical knowledge but due to lack of experience with children with autism and less teaching experience, teachers lack in practical knowledge, that is, classroom strategies.

5.5 What do mainstream and special education teachers recommend for implementation of strategies to improve social interaction in Children with Autism?

Special education teachers as compared to regular teachers have impressive understanding of appropriate strategies to facilitate learning in children with autism (*Sarah et al., 1999*). Therefore, special educators were included in the study to give their suggestions or recommendations for implementation of strategies by mainstream teachers in inclusive classroom in order to promote social interaction in children with autism. Mainstream teachers also responded to section E of the questionnaire. Thus, total 90 respondents participated in the study. Only 40% (n=36) teachers responded (Graph 5). Mainstream teachers do receive auxiliary support for special needs pupil but results show that there is little guidance or training in autism for staff. That is why, special education teachers and mainstream teachers mentioned that intensive pre-service and in-service training is required both theoretical and practical, for managing children with autism at different ages and stages. As support to the mainstream teachers in classroom, participants feel that teaching assistants' support is not enough and should be increased. For effective outcome of classroom intervention to improve social interaction in children with autism, teachers recommend strong coordination between parents and professionals. The outcome of this study is in line with the study carried by Evelyn M C Gregor and Elaine Campbell (2001), where they conclude that regular teachers had little awareness of autism spectrum disorder. The support from specialist staff was not adequate and many teachers viewed them as unhelpful and believed they should spend more time in the classroom and provide relevant strategies according to the need of the children. Therefore, there seem to be strong case for investing in more training for specialist staff, more guidance for mainstream staff and restructuring the role of professionals and regular in-service training for mainstream teachers.

CHAPTER SIX

CONCLUSION

6.1 Summary

The primary goal of this study was to determine the mainstream teachers' knowledge and awareness of classroom strategies to enhance social interaction in children with autism in Czech Republic. The study's population consisted of mainstream teachers and special educators from various cities in Czech Republic.

The survey instrument used in the study had five sections (A, B, C, D and E). Mainstream teachers were asked to respond to all sections of the questionnaire while special educators were asked to fill only section A and E. The first section was designed to elicit demographic information, consisted of age-related and work-related questions. Section B derived teachers' knowledge of autism spectrum disorder and consisted of 19 statements. Section C was designed to examine teachers' view on social interaction in children with autism and comprised of subsection I to VII. Further, section D derived teachers' knowledge of strategies and finally section E focussed on suggestions and recommendations given by mainstream and special education teachers in order to improve implementation of evidence-based strategies in support of social interaction development in children with autism by regular teachers in inclusive classroom.

Data from survey instrument was analysed using the Microsoft Excel 2003 and were represented in chapter 4. Frequency tables, charts and graphs were used to provide answers to the research questions one through four.

Research question 1

What do mainstream teachers know about Autism Spectrum Disorder?

Majority of regular teachers (n=18, 64%) responses fell in 'fair and excellent' category. More than 50% teachers marked 11 true statements out of 13 true statements, related to autism spectrum disorder. This is not surprising because 23 (82%) regular teachers had Masters in Education degree. In addition, all regular teachers were enrolled in Life long education

program to widen their competencies to work also with children with special educational needs.

Research question 2

What is mainstream teachers' view on social interaction ability of Children with autism?

Mainstream teachers are familiar with the fact that social interaction is impaired in children with autism. But they have confusion with regard to deficits in social interaction ability of children with autism. Teachers know the meaning of social interaction and they are aware that it can be improved in pupils with autism with early intervention between birth to six years of age. But teachers are not aware of the neurological reasons for giving intervention in early years. (Table 5, Graph 1, Graph 2).

Teachers recommend inclusive classroom setting for developing social interaction in children with autism and admit that their role is very crucial in terms of setting the environment, planning activities and encouraging children without special education needs to initiate conversation with children with autism.

Research question 3

What do mainstream teachers know about strategies to enhance social interaction among children with autism in inclusive educational setting?

Majority of teachers understand the concept of intervention and are familiar with related terms like, child-centered, and evidenced-based. But study shows that teachers completely lack in knowledge of classroom strategies as none of the responded to particular question in survey instrument and whoever responded wrote 'I don't know'. In addition, more than 50% teachers perceive class size, lack of experience, lack of knowledge and lack of professional support as major obstacles to have children with autism in inclusive classroom and implement strategies for their social interaction. Some teachers also perceive child's behaviour and degree of severity of condition as challenge in working with children with autism.

Research question 4

What do mainstream and special education teachers recommend for implementation of strategies to improve social interaction in Children with Autism?

As gaps are identified in teachers' knowledge (deficits in social interaction in children with autism, classroom strategies, reason for early intervention), special education teachers and mainstream teachers mentioned that intensive pre-service and in-service training is required.

Although government do have provision of teaching assistants (chapter 1) in classroom but teachers feel that teaching assistants' support is not enough and there number should be increased. Furthermore, parents' participation should be increased through coordination between parent and professional.

6.2 Conclusion

Based on an analysis of the findings from this study, there appears to be major lack of knowledge of classroom strategies in support of building social interaction in children with autism in regular teachers in Czech Republic. Although the number of participants is less to make any substantive conclusion about regular teachers' knowledge in Czech Republic but this is a preliminary study. Therefore, following conclusions emerged as a result of the study.

1. Mainstream teachers in Czech Republic appears to have theoretical knowledge regarding autism spectrum disorder and social interaction in these children but there is lack of practical knowledge in terms of classroom strategies (intervention) to improve social integration of children with autism.
2. Lack of experience among regular teachers to work or interact with children with autism as only 4 (14%) teachers reported to have some experience with pupils with autism.
3. Regular teachers are aware of autism spectrum disorder but lack of information regarding deficits in social interaction in children with autism and effective strategies to encourage social interaction among children show teachers have very basic knowledge of autism.

4. Because of difference in political and educational system in India and Czech Republic and less number of respondents, the results of the study cannot be generalized for India. Thus, similar study can be replicated at much larger scale in any city of India.

6.3 Recommendation

The following recommendations are made based upon the analyses conducted of the survey responses regarding strategies in support of enhancing social interaction among children with autism.

Recommendation for improvement of Practice

1. With the increase in the number of identified children diagnosed with Autism Spectrum Disorder, teacher training colleges or special pedagogy centres could offer classes or workshops specific to autism and classroom intervention. The training should give theoretical and practical input as well.
2. The link between regular schools and special pedagogy centers need to be relooked for more accessible specialized professional support for regular schools catering to children with autism.
4. As the outcome of study, lack of teaching assistants and lack of specialist support are obstacles in implementing classroom strategies to socially integrate children with autism. Therefore, education system needs reform where schools should have more teaching assistants and special education teachers as consultant to support regular teacher in inclusive classroom till regular teachers are trained to work independently.

5. Better coordination between regular teachers and parents of children with autism should be encouraged as they both work closely with the child and information sharing can support them to work effectively.

Recommendation for further research

Due to an increasing number of children diagnosed as autism in schools and because of various theories and methodologies regarding autism spectrum disorder, it is imperative that regular teachers obtain training in research based classroom strategies to provide meaningful education for these children. The following recommendations are made for further research.

1. This study can be replicated all over Czech Republic at much larger scale.
2. The majority of evidence-based strategies mentioned in existing literature are researched outside Czech Republic (chapter 2). Therefore, teachers' awareness on the basis of those strategies cannot be judged as there will be cultural and contextual differences. Thus, future studies might include qualitative research in which the researcher could directly observe methods used by special educators for encouraging social interaction among children with autism and then interview parents to ascertain their opinion of the effectiveness of the methods used in educational setting.
3. Future studies may involve comparative study between regular and special educator all over Czech Republic and comparisons about their awareness and views on methods/strategies used in classroom particularly to improve social interaction by children with autism.
4. Future research may also focus on success of government provisions (e.g. services of special pedagogical centers, specialist and teaching assistants support) for promotion of inclusive education for children with autism.

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APPENDIX 1

QUESTIONNAIRE (ENGLISH VERSION)

ASHA YADAV

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Erasmus Mundus MA Special Education Needs

Roehampton University (London), Fontys Univ. (Netherlands), and Charles University (Czech Republic)

TITLE

TEACHERS' AWARENESS OF STRATEGIES TO ENHANCE SOCIAL INTERACTION IN CHILDREN WITH AUTISM

QUESTIONNAIRE FOR TEACHERS

The aim of the questionnaire to gain information about:

- ❖ Awareness of teachers on social interaction in children with autism.
- ❖ Strategies to improve social interaction in children with autism
- ❖ Recommendations given by teachers to implement strategies in classroom.

This questionnaire is for regular teachers and special education teachers.

Note:

1. *Special educators need to fill only Section A and Section E.*
2. *Your responses are voluntary and confidential. No individual teachers or their schools will be identified in any reports.*

PLEASE TICK THE APPROPRIATE BOX IN EACH CASE.

A. PERSONAL INFORMATION

1. Gender: ☐ Female ☐ Male
2. Age group: ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59
3. What level of education do you have?
- ☐ Pedagogical high school ☐ Bachelor in education
- ☐ Masters in education ☐ Other _____
4. Are you a teacher at?
- ☐ Kindergarten ☐ 1st grade of basic school
- ☐ 2nd grade of basic school ☐ High school
5. Number of years of teaching experience:
- ☐ 0-5 ☐ 6-10 ☐ 11-15 ☐ More
6. Have you ever taught a child with special educational needs?
- ☐ Yes ☐ No
7. If so, where?
- ☐ Special school ☐ Mainstream school
- ☐ Special class within mainstream school ☐ Other
8. What kind of special educational needs your students had?
- ☐ Physical impairment ☐ Intellectual disability
- ☐ Hearing impairment ☐ Visual impairment
- ☐ Speech impairment ☐ Dyslexia
- ☐ Problem behavior ☐ Other
9. Do/Did you have assistant of teacher? ☐ Yes ☐ No
10. Have you ever taught child/children with autism? ☐ Yes ☐ No
11. If so, how would you describe the level / severity of their autism?
- ☐ Mild ☐ Moderate ☐ Severe

B. TEACHERS' KNOWLEDGE

Which of the following statement most accurately represent the characteristic of autism? Tick the statements that are true.

1. ☐ Autism is a neurodevelopment disorder
2. ☐ Autism can be cured.
3. ☐ Autism is congenital.
4. ☐ Autism can result of accident in early years.
5. ☐ Early onset of autism occurs in early two years of life.
6. ☐ Children with autism may often seem aloof from peers.
7. ☐ Children with autism exhibit poor social interaction skills.
8. ☐ Many children with autism have limited speech which they do not use for the purpose of communication.
9. ☐ At times, severe temper tantrums and episodes of aggressive behavior may occur.
10. ☐ Repetitive behaviors, such as fixating on certain objects or repetitive hand motions may be observed.
11. ☐ Children with autism may display a rigid need for routine and structure.
12. ☐ Autism has many variations in clinical manifestations.
13. ☐ Children with autism have excellent eye contact.
14. ☐ Children with autism use finger to point or ask for something.
15. ☐ Autism spectrum disorder is synonym for mental retardation.
16. ☐ Autism spectrum disorder is a biological disorder.
17. ☐ Autism spectrum disorder is an emotional illness.
18. ☐ Children inherit autism from family members.
19. ☐ Autism is a result of neurological dysfunction caused by undetermined factors.

C. TEACHERS' VIEW

I. Which of the following describe the social interaction ability among children with Autism? Tick the appropriate box.

1. ☐ Social interaction is impaired in children with autism.
2. ☐ While social interaction is severely affected, not all aspects of social behavior are equally impaired.
3. ☐ Social interaction in children with autism can be improved.
4. ☐ Promoting social interaction among children with autism is not important.
5. ☐ Social interaction impairment means failure to develop peer relationships appropriate to developmental level.
6. ☐ Social interactions provide crucial social context children's development.
7. ☐ Social interaction impairment means lack of social or emotional reciprocity.
8. ☐ Social interaction impairment is due to poor eye to eye gaze, facial expression, body posture and gestures.
9. ☐ Lack of spontaneous make-believe play or social imitative play appropriate to developmental level lead to social interaction impairment.
10. ☐ Stereotyped and repetitive use of language or idiosyncratic language is hindrance to social interaction of children with autism.

II. In your opinion what are the main five deficits in social interaction of children with autism? Tick the five most appropriate.

- | | | |
|--|--|---|
| <input type="checkbox"/> Imitation | <input type="checkbox"/> Hand shakes | <input type="checkbox"/> Initiation of social contact |
| <input type="checkbox"/> Language | <input type="checkbox"/> Saying 'bye bye' | <input type="checkbox"/> Eye contact |
| <input type="checkbox"/> Joint attention | <input type="checkbox"/> Capacity to be aware of other persons | |
| <input type="checkbox"/> Mental states | | |

III. Which age group is most appropriate to begin intervention in children with autism to improve social interaction?

- | | | | |
|------------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|
| <input type="checkbox"/> 0-6 years | <input type="checkbox"/> 6-12 years | <input type="checkbox"/> 12-18 years | <input type="checkbox"/> 18 above |
|------------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|

IV. Why intervention should be given in this age group? Tick the appropriate box.

- ☐ Children like interaction with others in this age group.
- ☐ Children's brain is still developing.
- ☐ Learning capacity of children with autism is high in this age group.
- ☐ Children with autism need to interact with other children in the school.
- ☐ School curriculum directs to encourage social interaction of children with autism.

V. Do you think inclusive classroom is suitable setting for improving social interaction of children with autism?

- ☐ Yes ☐ No ☐ I do not know

VI. Does teacher play important role in improving social interaction among children with autism in inclusive classroom?

- ☐ Yes ☐ No ☐ I do not know

VII. What is the teachers' role in improving social interaction among children?

- ☐ Setting the environment ☐ Planning activities
- ☐ Asking children without special educational needs to initiate talking to children with autism.

Any other? Please specify.

D. TEACHERS' AWARENESS OF STRATEGIES

I. According to you which statement about intervention is appropriate? Please tick.

- ☐ All children with autism can be given same intervention to enhance social interaction.
- ☐ Intervention should be child-centered.
- ☐ Teacher plays major role in encouraging social interaction among children.
- ☐ Teachers should be familiar with evidence-based strategies to improve social interaction.
- ☐ Strategies should be modified according to situation.

II. Please write strategies that you are acquainted with in support of improving social interaction among children with autism.

III. Which of the following you perceive as challenge in implementing strategies to improve social interaction?

- | | |
|---|---|
| <input type="checkbox"/> Class size | <input type="checkbox"/> Lack of knowledge in teacher |
| <input type="checkbox"/> Lack of experience in teacher | <input type="checkbox"/> Child's condition (severity of condition) |
| <input type="checkbox"/> Inappropriate behavior of the child. | <input type="checkbox"/> Lack of support from school Administration |
| <input type="checkbox"/> Lack of professional support | <input type="checkbox"/> Lack of on-the-job training. |

Any other? Please specify.

E. TEACHERS' RECOMMENDATION

What do you recommend for implementation of strategies to improve social interaction in children with autism?

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

Thank you very much for completing this questionnaire

APPENDIX 2

QUESTIONNAIRE (CZECH)

ASHA YADAV

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Erasmus Mundus MA Special Education Needs

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NÁZEV

INFORMOVANOST UČITELŮ O STRATEGIÍCH VEDOUCÍCH KE ZVÝŠENÍ SOCIÁLNÍ INTERAKCE U DĚTÍ S AUTISMEM

DOTAZNÍK PRO UČITELE

Smyslem tohoto dotazníku je získat:

- ❖ informace o povědomí učitelů o sociální interakci u dětí s autismem,
- ❖ informace o strategiích vedoucích ke zlepšení sociální interakce u těchto dětí,
- ❖ doporučení učitelů týkající se uplatnění těchto strategií ve třídě.

Dotazník je rozdán učitelům běžných i speciální škol.

Poznámka:

1. Speciální pedagogové vyplňují pouze oddíl A a E.
2. Vaše odpovědi jsou dobrovolné a důvěrné. Učitele ani jeho školu nebude možné ve výzkumných materiálech identifikovat.

OZNAČTE, PROSÍM, KŘÍŽKEM PŘÍSLUŠNOU ODPOVĚĎ U KAŽDÉ OTÁZKY

A. OSOBNÍ DATA

1. Pohlaví ☐ žena ☐ muž
2. Věková skupina ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59
3. Jaké úrovně pedagogického vzdělání jste dosáhl/a?
☐ Střední pedagogická škola ☐ Bakalářský stupeň
☐ Magisterský stupeň ☐ Jiný _____
4. Jste učitel/ka na
☐ Mateřské škole ☐ 1.stupni základní školy
☐ 2. stupni základní školy ☐ Střední škole
5. Počet let učitelské praxe
☐ 0-5 ☐ 6-10 ☐ 11-15
6. Učil/a jste někdy dítě se speciálními vzdělávacími potřebami?
☐ Ano ☐ Ne
7. Jestliže ano, kde?
☐ Ve speciální škole ☐ V běžné škole
☐ Ve speciální třídě v běžné škole
8. Ve které kategorii byly speciální vzdělávací potřeby vašich žáků?
☐ Tělesné postižení ☐ Mentální postižení
☐ Sluchové postižení ☐ Zrakové postižení
☐ Poruchy řeči ☐ Dyslexie
☐ Poruchy chování ☐ Ostatní
9. Máte nebo měl/a jste ve třídě asistenta učitele? ☐ Ano ☐ Ne
10. Učil/a jste někdy dítě s autismem? ☐ Ano ☐ Ne
11. Jestliže ano, jak byste hodnotil/a jeho/její stupeň autismu?
☐ Lehký ☐ Střední ☐ Těžký

B. ZNALOSTI UČITELŮ O AUTISMU

Které z následujících vyjádření nejvíce odpovídá charakteristice autismu? Označte pravdivá sdělení.

1. ☐ Autismus je porucha nervového vývoje.
2. ☐ Autismus je léčitelný.
3. ☐ Autismus je vrozený.
4. ☐ Autismus může být důsledkem úrazu v raném věku.
5. ☐ Počátky autismu se projeví v prvních dvou letech života.
6. ☐ Děti s autismem se mohou jevit jako nevšímavé ke svým vrstevníkům.
7. ☐ Děti s autismem projevují chabé dovednosti sociální interakce.
8. ☐ Mnohé děti s autismem mají omezenou řeč, kterou nepoužívají za účelem komunikace.
9. ☐ Občas se u dítěte mohou projevit výbuchy hněvu a epizody agresivního chování.
10. ☐ U dětí s autismem můžeme pozorovat repetitivní chování, jako je fixace na určité předměty nebo opakující se pohyby rukou.
11. ☐ Děti s autismem mohou projevovat rigidní potřebu rutiny a struktury.
12. ☐ Autismus má mnoho variant v klinických projevech.
13. ☐ Děti s autismem mají vynikající oční kontakt.
14. ☐ Děti s autismem používají prst, když na něco ukazují nebo o něco žádají.
15. ☐ Porucha autistického spektra je synonymem mentální retardace.
16. ☐ Porucha autistického spektra je biologická porucha.
17. ☐ Porucha autistického spektra je emocionální onemocnění.
18. ☐ Děti dědí autismus od členů rodiny.
19. ☐ Autismus je výsledkem neurologické dysfunkce způsobené neznámými faktory.

C. NÁZORY UČITELŮ

I. Které z následujících sdělení popisuje schopnost sociální interakce dětí s autismem?

Označte příslušný rámeček.

1. ☐ U dětí s autismem je sociální interakce narušena.
2. ☐ Přestože sociální interakce je silně ovlivněna, nejsou všechny aspekty sociálního chování narušeny stejnou měrou.
3. ☐ Sociální interakce dětí s autismem se může zlepšit.
4. ☐ Rozvíjení sociální interakce u dětí s autismem není důležité.
5. ☐ Porucha sociální interakce znamená neschopnost dítěte rozvíjet vztahy s vrstevníky odpovídající jeho vývojové úrovni.
6. ☐ Sociální interakce poskytují zásadní sociální kontext vývoje dětí.
7. ☐ Narušení sociální interakce představuje nedostatek sociální a emoční reciprocity.
8. ☐ Narušení sociální interakce je následkem nedostatečného očního kontaktu, výrazu tváře, držení těla a gest.
9. ☐ Nedostatek spontánní symbolické nebo sociálně napodobivé hry na odpovídající vývojové úrovni vede k narušení sociální interakce
10. ☐ Stereotypní a opakované používání řeči nebo výstředního jazyka je překážkou v sociální interakci dětí s autismem.

II. Označte pět hlavních nedostatků v sociální interakci dětí s autismem.

- | | | |
|--|---|--|
| <input type="checkbox"/> Napodobování | <input type="checkbox"/> Mávání rukou | <input type="checkbox"/> Začátek sociálního kontaktu |
| <input type="checkbox"/> Jazyk, řeč | <input type="checkbox"/> Zdravení | <input type="checkbox"/> Oční kontakt |
| <input type="checkbox"/> Sdílená pozornost | <input type="checkbox"/> Kapacita uvědomění si ostatních osob | |
| <input type="checkbox"/> Mentální stav | | |

III. Která věková skupina je nejvhodnější k zahájení intervence u dětí s autismem, která by vedla ke zkvalitnění sociální interakce ?

- ☐ 0-6 ☐ 9-12 ☐ 12-18 ☐ 18 a výše

IV. Proč by této věkové skupině měla být věnována pozornost ? Označte příslušný bod.

- ☐ Děti mají rády interakci s ostatními v své věkové skupině.
- ☐ Mozek dětí se stále vyvíjí
- ☐ Učební kapacita u dětí s autismem je větší v této věkové skupině.
- ☐ Děti s autismem potřebují vzájemný kontakt s ostatními dětmi ve škole.
- ☐ Školní programy směřují k podnícení sociální interakce.

V. Domníváte se, že integrace je vhodné opatření ke zkvalitnění sociální interakce u dětí s autismem ?

- ☐ Ano ☐ Ne ☐ Nevím

VI. Hraje učitel/ka důležitou roli ve zkvalitnění sociální interakce při školní integraci ?

- ☐ Ano ☐ Ne ☐ Nevím

VII. Jaká je role učitele/ky při zlepšení sociální interakce mezi dětmi ?

- ☐ Přizpůsobení prostředí ☐ Plánované činnosti

- ☐ Požádat děti, které nemají speciální vzdělávací potřeby, aby iniciovaly komunikaci s dětmi s autismem.

Něco jiného ? Uveďte, prosím.

D. ZNALOSTI STRATEGIÍ

1. Které tvrzení o intervenci je podle vás správné ? Označte, prosím.

- ☐ U všech dětí s autismem se může použít stejná intervence ke zlepšení sociální interakce
- ☐ Intervence by se měla orientovat na dítě.
- ☐ Učitel hraje hlavní roli při podpoře podněcování sociální interakce mezi dětmi.
- ☐ Učitel by měl být seznámen s vědecky ověřenými strategiemi vedoucími ke zlepšení sociální interakce.
- ☐ Strategie by se měly měnit vzhledem k dané situaci.

2. Napište, prosím, strategie k podpoře či zlepšení sociální interakce u dětí s autismem, s nimiž jste seznámen/a.

3. Které z následujících položek chápete jako problematické při uplatňování strategií vedoucích k zlepšení sociální interakce?

- | | |
|--|--|
| <input type="checkbox"/> Počet žáků ve třídě | <input type="checkbox"/> Nedostatečné znalosti učitele |
| <input type="checkbox"/> Nedostatek zkušeností učitele | <input type="checkbox"/> Postižení dítěte (stupeň postižení) |
| <input type="checkbox"/> Nevhodné chování dítěte | <input type="checkbox"/> Nedostatek podpory ze strany vedení školy |
| <input type="checkbox"/> Nedostatek odborné podpory | <input type="checkbox"/> Nedostatek dalšího vzdělávání |

Něco jiného? Prosím, specifikujte.

E. DOPORUČENÍ UČITELŮ

Co doporučujete pro zavedení strategií ke zlepšení sociální interakce u dětí s autismem?

Děkuji vám mnohokrát za vyplnění tohoto dotazníku.

APPENDIX 3 (Demographic Data)

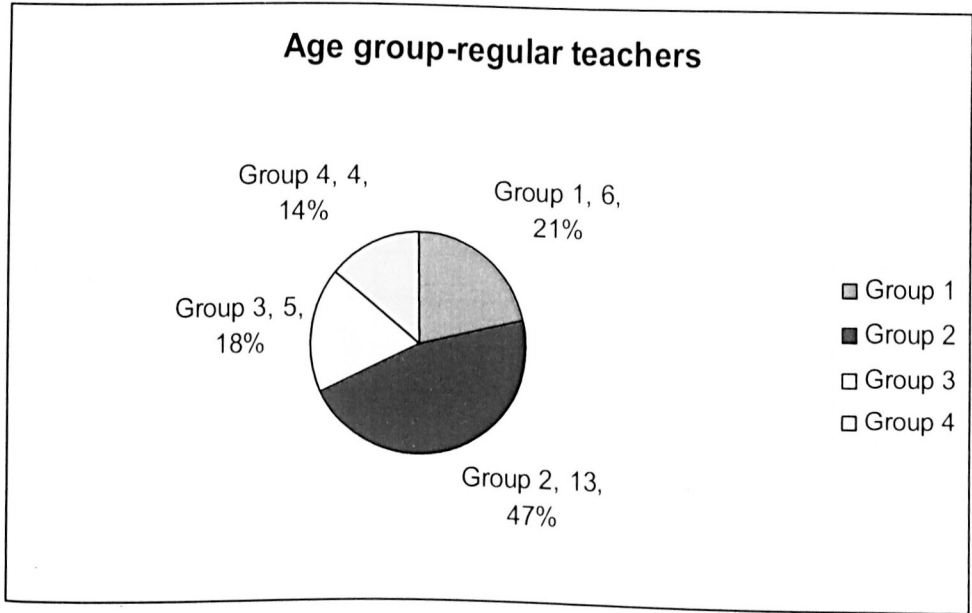
A) Age of the participants (Regular Teachers)

Participants	Age Group	Group 1	Group 2	Group 3	Group 4
LSU 1	Group 3			1	
LSU 2	Group 2		1		
LSU 3	Group 1	1			
LSU 4	Group 1	1			
LSU 5	Group 4				1
LSU 6	Group 4				1
LSU 7	Group 3			1	
LSU 8	Group 2		1		
LSU 9	Group 2		1		
LSU 10	Group 2		1		
LSU 11	Group 3			1	
LSU 12	Group 2		1		
LSU 13	Group 3			1	
LSU 14	Group 2		1		
LSU 15	Group 2		1		
LSU 16	Group 1	1			
LSU 17	Group 2		1		
LSU 18	Group 4				1
LSU 19	Group 2		1		
LSU 20	Group 2		1		
LSU 21	Group 2		1		
LSU 22	Group 1	1			
LSU 23	Group 1	1			
LSU 24	Group 4				1
LSU 25	Group 3			1	
LSU 26	Group 2		1		
LSU 27	Group 2		1		
LSU 28	Group 1	1			

Table 1 (Regular teachers)

Age Group	
Group 1	20-29 years
Group 2	30-39 years
Group 3	40-49 years
Group 4	50-59 years

Chart 1 (Regular teachers)

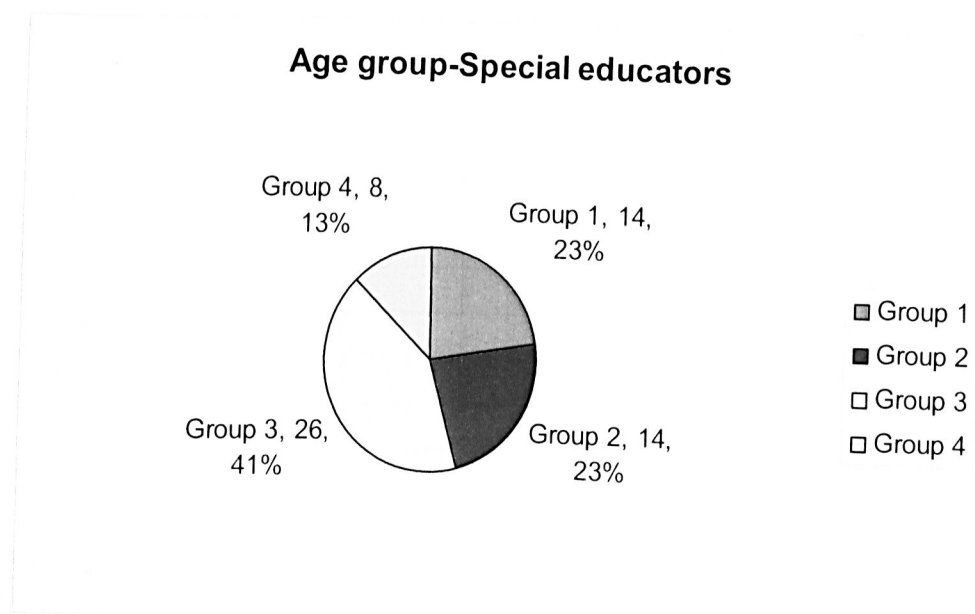


A) Age of the participants (Special educators)

Participants	Age group	Group 1	Group 2	Group 3	Group 4
LS A29	Group 3			1	
LS A30	Group 1	1			
LS A31	Group 2		1		
LS A32	Group 3			1	
LS A33	Group 1	1			
LS A34	Group 3			1	
LS A35	Group 3			1	
LS A36	Group 2		1		
LS A37	Group 1	1			
LS A38	Group 2		1		
LS A39	Group 3			1	
LS A40	Group 3			1	
LS A41	Group 3			1	
LS A42	Group 3			1	
LS A43	Group 3			1	
LS B44	Group 2		1		
LS B45	Group 1	1			
LS B46	Group 1	1			
LS B47	Group 1	1			
LS B48	Group 2		1		
LS B49	Group 1	1			
LS B50	Group 3			1	
LS B51	Group 2		1		
LS B52	Group 3			1	
LS B53	Group 3			1	
LS B54	Group 3			1	
LS B55	Group 4				1
LS B56	Group 4				1
LS B57	Group 4				1
LS B58	Group 3			1	
LS B59	Group 3			1	
LS B60	Group 3			1	
LS B61	Group 4				1
LS B62	Group 3			1	
LS B63	Group 4				1

Participants	Age group	Group 1	Group 2	Group 3	Group 4
LS B64	Group 4				1
LS B65	Group 2		1		
LS B66	Group 1	1			
LS B67	Group 2		1		
LS B68	Group 3			1	
LS B69	Group 2		1		
LS B70	Group 3			1	
LS B71	Group 4				1
LS B72	Group 2		1		
LS B73	Group 2		1		
LS B74	Group 1	1			
LS B75	Group 3			1	
SK 76	Group 1	1			
SK 77	Group 3			1	
SK 78	Group 1	1			
SK 79	Group 1	1			
SK 80	Group 3			1	
SSR 81	Group 3			1	
SSR 82	Group 1	1			
SSR 83	Group 2		1		
SSR 84	Group 4				1
SSR 85	Group 3			1	8
SAS 86	Group 3			1	
SAS 87	Group 2		1		
SAS 88	Group 1	1			
SAS 89	Group 3	14		1	
SAS 90	Group 2		1	26	

Charts 1 (Special educators)



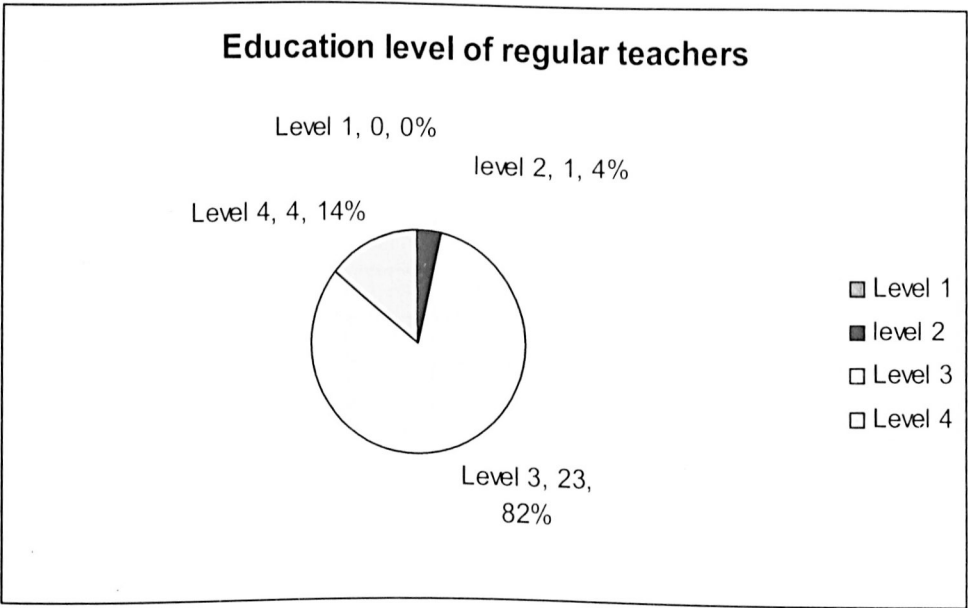
B) Education level (Regular teachers)

Participants	Education Level	Level 1	Level 2	Level 3	Level 4
LSU 1	Level 3			1	
LSU 2	Level 3			1	
LSU 3	Level 2		1		
LSU 4	Level 4				1
LSU 5	Level 4				1
LSU 6	Level 3			1	
LSU 7	Level 3			1	
LSU 8	Level 3			1	
LSU 9	Level 3			1	
LSU 10	Level 3			1	
LSU 11	Level 3			1	
LSU 12	Level 3			1	
LSU 13	Level 3			1	
LSU 14	Level 3			1	
LSU 15	Level 3			1	
LSU 16	Level 3			1	
LSU 17	Level 3			1	
LSU 18	Level 3			1	
LSU 19	Level 4				1
LSU 20	Level 3			1	
LSU 21	Level 3			1	
LSU 22	Level 3			1	
LSU 23	Level 3			1	
LSU 24	Level 3			1	
LSU 25	Level 3			1	
LSU 26	Level 4				1
LSU 27	Level 3			1	
LSU 28	Level 3			1	

Table 2

Education level	
Level 1	Pedagogical high school
Level 2	Bachelor in Education
Level 3	Masters in Education
Level 4	Others

Chart 2 (Regular teachers)

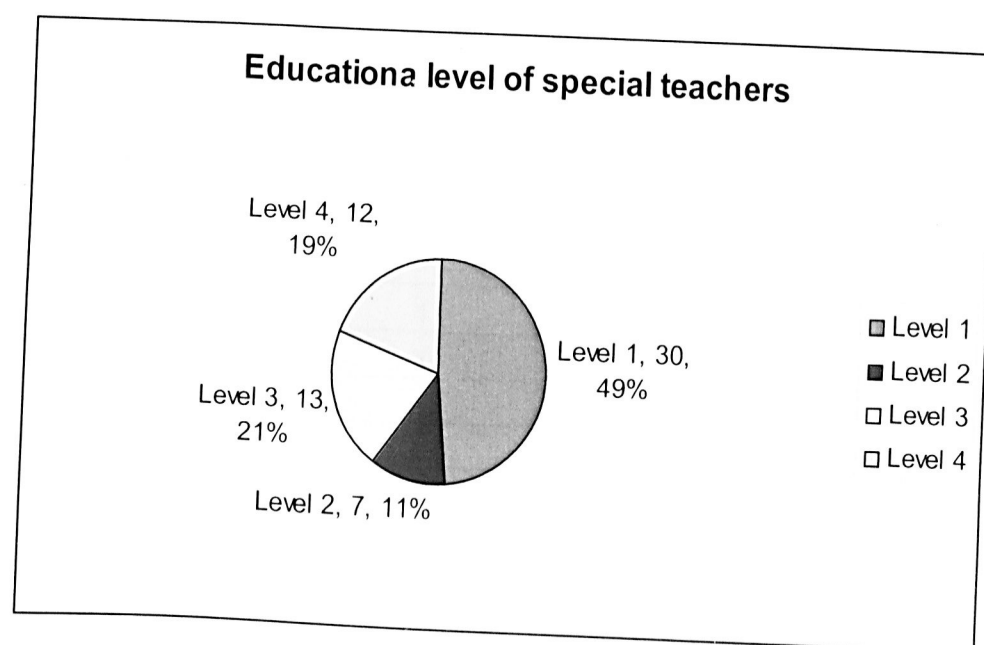


B) Education level (Special educators)

Participant	Education level	Level 1	Level 2	Level 3	Level 4
LS A29	Level 1	1			
LS A30	Level 1	1			
LS A31	Level 1	1			
LS A32	Level 1	1			
LS A33	Level 4				1
LS A34	Level 4				1
LS A35	Level 1	1			
LS A36	Level 3			1	
LS A37	Level 1	1			
LS A38	Level 4				1
LS A39	Level 1	1			
LS A40	Level 1	1			
LS A41	Level 1	1			
LS A42	Level 4				1
LS A43	Level 1	1			
LS B44	Level 2		1		
LS B45	Level 4				1
LS B46	Level 1	1			
LS B47	Level 4				1
LS B48	Level 4				1
LS B49	Level 4				1
LS B50	Level 1	1			
LS B51	Level 2		1		
LS B52	Level 1	1			
LS B53	Level 1	1			
LS B54	Level 1	1			
LS B55	Level 1	1			
LS B56	Level 1	1			
LS B57	Level 3			1	
LS B58	Level 1	1			
LS B59	Level 1	1			
LS B60	Level 1	1			
LS B61	Level 1	1			
LS B62	Level 1	1			
LS B63	Level 4				1
LS B64	Level 4				1
LS B65	Level 3			1	

Participant	Education level	Level 1	Level 2	Level 3	Level 4
LS B66	Level 4				1
LS B67	Level 1	1			
LS B68	Level 1	1			
LS B69	Level 1	1			
LS B70	Level 1	1			
LS B71	Level 4				1
LS B72	Level 1	1			
LS B73	Level 3			1	
LS B74	Level 1	1			
LS B75	Level 1	1			
SK 76	Level 3			1	
SK 77	Level 1	1			
SK 78	Level 2	30	1		
SK 79	Level 2		1		
SK 80	Level 3			1	
SSR 81	Level 3			1	
SSR 82	Level 2		1		
SSR 83	Level 3			1	
SSR 84	Level 3			1	
SSR 85	Level 3			1	
SAS 86	Level 3			1	
SAS 87	Level 2		1		
SAS 88	Level 2		1		
SAS 89	Level 3			1	
SAS 90	Level 3			1	

Chart 2 (Special teachers)



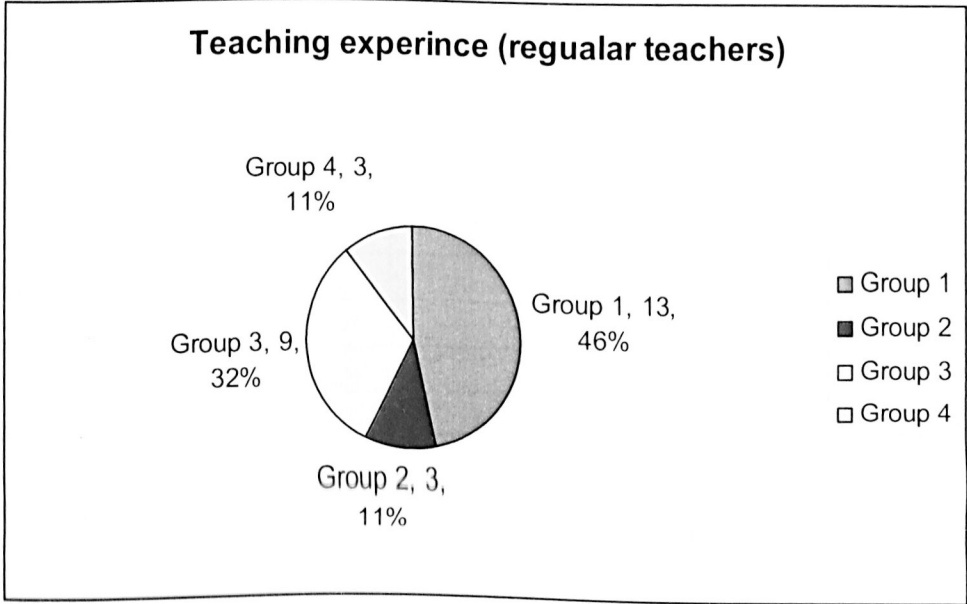
C) Teaching experience of teachers (Regular teachers)

Participants	Experience	Group 1	Group 2	Group 3	Group 4
LSU 1	Group 3			1	
LSU 2	Group 3			1	
LSU 3	Group 1	1			
LSU 4	Group 1	1			
LSU 5	Group 1	1			
LSU 6	Group 3			1	
LSU 7	Group 1	1			
LSU 8	Group 1	1			
LSU 9	Group 1	1			
LSU 10	Group 1	1			
LSU 11	Group 4				1
LSU 12	Group 3			1	
LSU 13	Group 3			1	
LSU 14	Group 3			1	
LSU 15	Group 1	1			
LSU 16	Group 1	1			
LSU 17	Group 2		1		
LSU 18	Group 4				1
LSU 19	Group 1	1			
LSU 20	Group 1	1			
LSU 21	Group 4				1
LSU 22	Group 2		1		
LSU 23	Group 1	1			
LSU 24	Group 3			1	
LSU 25	Group 3			1	
LSU 26	Group 3			1	
LSU 27	Group 2		1		
LSU 28	Group 1	1			

Table 3

Years of Teaching Experience	
Group 1	0-5 years
Group 2	6-10 years
Group 3	11-15 years
Group 4	More

Chart 3 (Regular teachers)

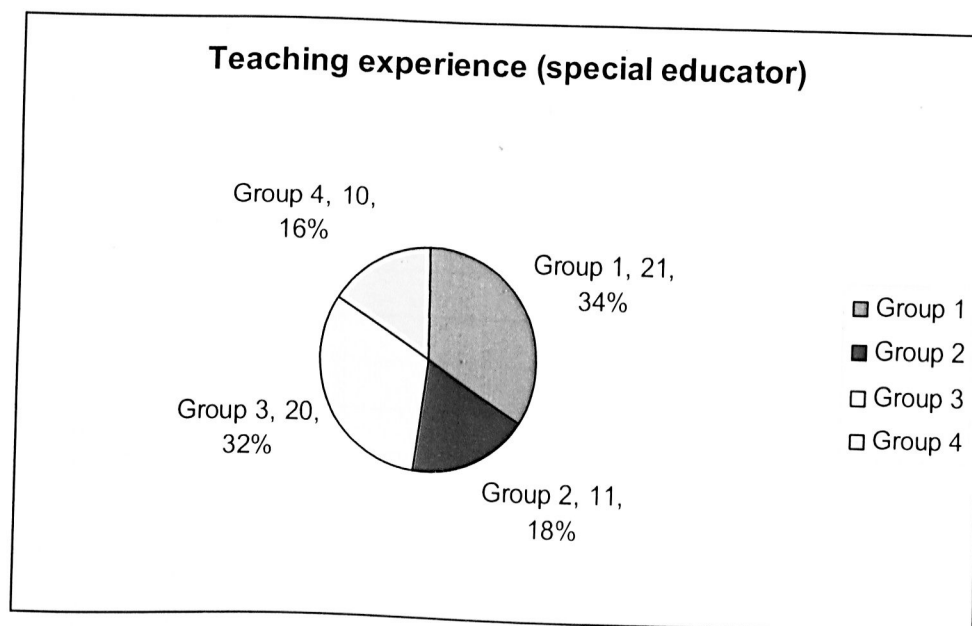


C) Teaching experience of teachers (Regular teachers)

Participants	Groups	Group 1	Group 2	Group 3	Group 4
LS A29	Group 1	1			
LS A30	Group 2		1		
LS A31	Group 2		1		
LS A32	Group 3			1	
LS A33	Group 1	1			
LS A34	Group 1	1			
LS A35	Group 3			1	
LS A36	Group 3			1	
LS A37	Group 1	1			
LS A38	Group 1	1			
LS A39	Group 3			1	
LS A40	Group 2		1		
LS A41	Group 2		1		
LS A42	Group 1	1			
LS A43	Group 3			1	
LS B44	Group 3			1	
LS B45	Group 1	1			
LS B46	Group 1	1			
LS B47	Group 1	1			
LS B48	Nil				1
LS B49	Group 2		1		
LS B50	Group 2		1		
LS B51	Group 1	1			
LS B52	Group 2		1		
LS B53	Group 1	1			
LS B54	Group 2		1		
LS B55	Group 3			1	
LS B56	Group 3			1	
LS B57	Group 3			1	
LS B58	Group 3			1	
LS B59	Group 4				1
LS B60	Group 3			1	
LS B61	Group 3			1	
LS B62	Group 3			1	
LS B63	Group 1	1			
LS B64	Group 3			1	
LS B65	Group 3			1	

Participants	Groups	Group 1	Group 2	Group 3	Group 4
LS B66	Nil				1
LS B67	Group 1	1			
LS B68	Group 2		1		
LS B69	Group 1	1			
LS B70	Group 3			1	
LS B71	Group 1	1			
LS B72	Group 4				1
LS B73	Group 2		1		
LS B74	Group 2		1		
LS B75	Group 4				1
SK 76	Group 1	1			
SK 77	Group 3			1	
SK 78	Group 1	1			
SK 79	Group 1	1			
SK 80	Group 3			1	
SSR 81	Group 3			1	
SSR 82	Group 1	1			
SSR 83	Group 3			1	
SSR 84	Group 4			20	1
SSR 85	Group 4				1
SAS 86	Group 4				1
SAS 87	Group 4		11		1
SAS 88	Group 1	1			
SAS 89	Group 4				1
SAS 90	Group 1	1			10

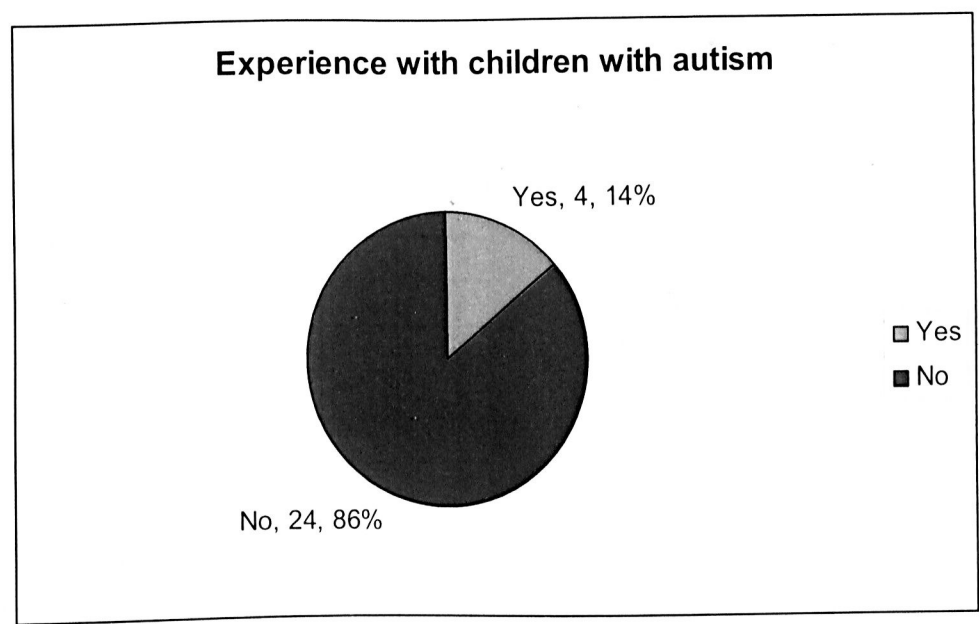
Chart 3 (Special educators)



D) Experience with children with autism (Regular teachers)

Participants	SEN experience	Yes	No
LSU 1	No		1
LSU 2	No		1
LSU 3	No		1
LSU 4	No		1
LSU 5	No		1
LSU 6	No		1
LSU 7	No		1
LSU 8	No		1
LSU 9	No		1
LSU 10	No		1
LSU 11	Yes	1	
LSU 12	No		1
LSU 13	No		1
LSU 14	No		1
LSU 15	Yes	1	
LSU 16	No		1
LSU 17	No		1
LSU 18	Yes	1	
LSU 19	Yes	1	
LSU 20	No		1
LSU 21	No		1
LSU 22	No		1
LSU 23	No		1
LSU 24	No		1
LSU 25	No		1
LSU 26	No		1
LSU 27	No		1
LSU 28	No		1

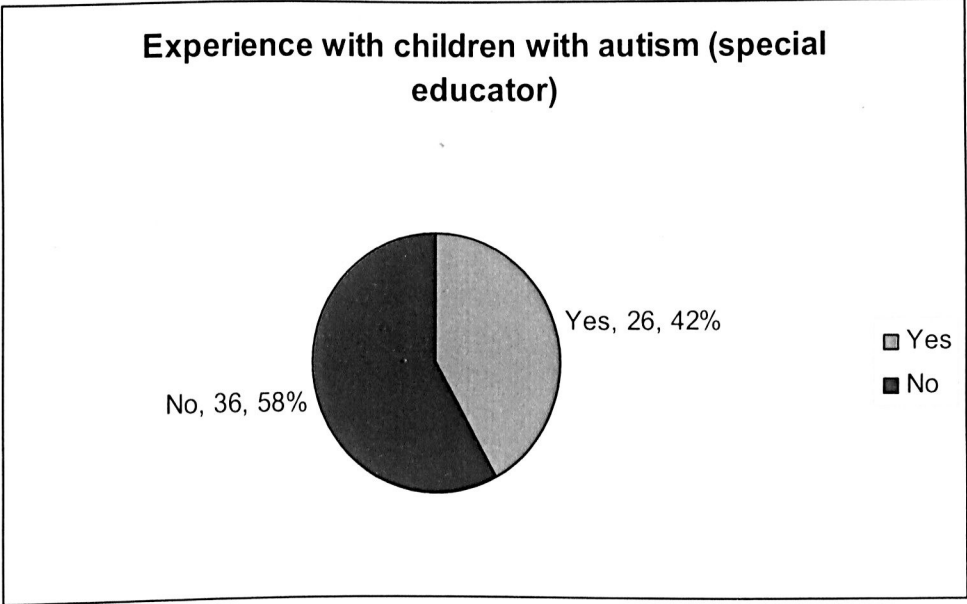
Chart 4 (regular teachers)



E) Experience with children with autism (special educators)

Participants	Response	Yes	No	Participants	Response	Yes	No
LS A29	Yes	1		LS B60	Yes	1	
LS A30	No		1	LS B61	No		1
LS A31	Yes	1		LS B62	No		1
LS A32	Yes	1		LS B63	No		1
LS A33	No		1	LS B64	No		1
LS A34	Yes	1		LS B65	No		1
LS A35	Yes	1		LS B66	Yes	1	
LS A36	No		1	LS B67	Yes	1	
LS A37	Yes	1		LS B68	Yes	1	
LS A38	No		1	LS B69	Yes	1	
LS A39	No		1	LS B70	Yes	1	
LS A40	Yes	1		LS B71	Yes	1	
LS A41	No		1	LS B72	Yes	1	
LS A42	No		1	LS B73	Yes		1
LS A43	No		1	LS B74	Yes		1
LS B44	No		1	LS B75	Yes		1
LS B45	No		1	SK 76	Yes		1
LS B46	Yes	1		SK 77	Yes	1	
LS B47	No		1	SK 78	Yes		1
LS B48	No		1	SK 79	Yes	1	
LS B49	Yes	1		SK 80	Yes		1
LS B50	Yes		1	SSR 81	Yes		1
LS B51	Yes	1		SSR 82	Yes		1
LS B52	Yes		1	SSR 83	Yes		1
LS B53	Yes	1		SSR 84	Yes		1
LS B54	No		1	SSR 85	Yes	1	
LS B55	Yes		1	SAS 86	Yes	1	
LS B56	Yes		1	SAS 87	Yes		1
LS B57	Yes		1	SAS 88	Yes	1	
LS B58	Yes		1	SAS 89	Yes	1	
LS B59	Yes	1		SAS 90	Yes	1	

Chart 4 (Special teachers)



APPENDIX 4 (Teachers' knowledge of social interaction in children with autism)

S.no	Statement number	Frequency
1	Autism is a neurodevelopmental disorder	15
2	Autism can be cured	0
3	Autism is congenital	22
4	Autism can result of accident in early years	2
5	Early onset of autism occurs in early two years of life	16
6	Children with autism may often seem aloof from peers	17
7	Children with autism exhibit poor social interaction skills	22
8	Children with autism have limited speech which they do not use for the purpose of communication	19
9	At times severe temper tantrums and episodes of aggressive behaviour may occur	21
10	Repetitive behaviors, such as fixating on certain objects or repetitive hand motions may be observed	21
11	Children with autism may display a rigid need for routine and structure	20
12	Autism has many variations in clinical manifestations	13
13	Children with autism have excellent eye contact	3
14	Children with autism use finger to point or ask for something	1
15	Autism spectrum disorder is synonym for mental retardation	1
16	Autism spectrum disorder is a biological illness	3
17	Autism spectrum disorder is an emotional illness	4
18	Children inherit autism from family members	4
19	Autism is a result of neurological dysfunction caused by undetermined factors	19

APPENDIX 5 (Teachers' view)

Subsection I

Participants	Stat 1 (T)	Stat 2 (T)	Stat 3 (T)	Stat 4 (F)	Stat 5 (T)	Stat 6 (T)	Stat 7 (T)	Stat 8 (T)	Stat 9 (T)	Stat 10 (T)	N/A
LSU 1	1	1	1		1		1	1		1	
LSU 2	1	1			1			1			
LSU 3	1	1			1		1	1	1	1	
LSU 4	1		1		1			1		1	
LSU 5		1	1		1		1	1		1	
LSU 6	1	1	1		1		1	1		1	
LSU 7	1	1	1		1		1	1	1	1	
LSU 8		1	1		1		1				
LSU 9	1		1		1		1	1	1	1	
LSU 10	1	1	1		1		1				
LSU 11		1									
LSU 12	1		1					1			
LSU 13	1										
LSU 14											1
LSU 15											1
LSU 16											1
LSU 17	1	1	1		1	1	1			1	
LSU 18	1	1			1			1		1	
LSU 19		1			1		1	1	1		
LSU 20	1		1		1		1		1		
LSU 21	1				1				1	1	
LSU 22	1		1								
LSU 23	1		1					1			
LSU 24		1									
LSU 25	1	1	1		1	1	1		1	1	
LSU 26	1	1	1		1		1		1	1	
LSU 27	1	1	1		1	1	1	1	1	1	
LSU 28	1		1		1	1	1	1	1	1	

Subsection III

Participants	Group 1	Group 2	Group 3	Group 4	N/A
LSU 1		1			
LSU 2	1				
LSU 3	1				
LSU 4	1				
LSU 5		1			
LSU 6		1			
LSU 7	1				
LSU 8	1				
LSU 9		1			
LSU 10	1				
LSU 11	1				
LSU 12	1				
LSU 13	1				
LSU 14					1
LSU 15					1
LSU 16	1				
LSU 17	1				
LSU 18	1				
LSU 19	1				
LSU 20	1				
LSU 21	1				
LSU 22	1				
LSU 23	1				
LSU 24		1			
LSU 25	1				
LSU 26	1				
LSU 27	1				
LSU 28		1			

Subsection III Continued.....(Teachers' response

Age group	Group	Teachers (Frequency)	Percentage
0-6 years	Group 1	20	71%
6-12 years	Group 2	6	21%
12-18 years	Group 3	0	0%
18 above	Group 4	0	0%
None	N/A	2	7%

Subsection IV Response to reason for giving intervention in 0-6 years of age

Participants	Correct response	Wrong response	N/A
LSU 1		1	
LSU 2		1	
LSU 3		1	
LSU 4	1		
LSU 5	1		
LSU 6		1	
LSU 7		1	
LSU 8		1	
LSU 9	1		
LSU 10		1	
LSU 11		1	
LSU 12		1	
LSU 13	1		
LSU 14			1
LSU 15			1
LSU 16	1		
LSU 17		1	
LSU 18		1	
LSU 19	1		
LSU 20		1	
LSU 21	1		
LSU 22	1		
LSU 23	1		
LSU 24		1	
LSU 25	1		
LSU 26	1		
LSU 27		1	
LSU 28		1	

Subsection V Response to appropriateness of inclusive classroom

Participants	Yes	No	I don't know	N/A
LSU 1	1			
LSU 2	1			
LSU 3	1			
LSU 4			1	
LSU 5	1			
LSU 6	1			
LSU 7	1			
LSU 8			1	
LSU 9			1	
LSU 10	1			
LSU 11	1			
LSU 12			1	
LSU 13				1
LSU 14				1
LSU 15				1
LSU 16	1			
LSU 17				1
LSU 18	1			
LSU 19		1		
LSU 20	1			
LSU 21		1		
LSU 22	1			
LSU 23			1	
LSU 24			1	
LSU 25	1			
LSU 26			1	
LSU 27		1		
LSU 28	1			

Subsection VI Does teacher play important role in improving social interaction ?

Participants	Yes	No	N/A	I don't know
LSU 1	1			
LSU 2	1			
LSU 3	1			
LSU 4	1			
LSU 5				1
LSU 6	1			
LSU 7	1			
LSU 8	1			
LSU 9	1			
LSU 10	1			
LSU 11	1			
LSU 12	1			
LSU 13	1			
LSU 14			1	
LSU 15			1	
LSU 16	1			
LSU 17	1			
LSU 18	1			
LSU 19	1			
LSU 20	1			
LSU 21	1			
LSU 22				1
LSU 23				1
LSU 24	1			
LSU 25	1			
LSU 26	1			
LSU 27	1			
LSU 28	1			

Subsection VII Teachers’ role in improving social interaction

Participants	Statement 1	Stàtement 2	Statement 3	Other
LSU 1		1		
LSU 2		1	1	
LSU 3	1			
LSU 4	1			
LSU 5		1		
LSU 6		1	1	
LSU 7				I don't know
LSU 8		1		
LSU 9			1	
LSU 10	1			
LSU 11			1	
LSU 12				
LSU 13	1			
LSU 14				
LSU 15				
LSU 16	1	1	1	
LSU 17	1			
LSU 18			1	
LSU 19		1		
LSU 20		1	1	
LSU 21		1		
LSU 22	1			
LSU 23	1			
LSU 24	1			
LSU 25	1	1	1	
LSU 26		1		
LSU 27	1			
LSU 28	1	1	1	

APPENDIX 6 (Teachers' awareness of strategies)

Subsection I

Participa nts	Clas s size	Lack of expe rienc e	Inappr opriate Beh.	Lack of profes sional suppor t	Lack of knowled ge in teacher	Severity of child's conditio n	Lack of school admin. Suppo rt	Lack of on the job trainin g	N/ A
LSU 1	1	1	1		1			1	
LSU 2	1	1	1		1		1		
LSU 3	1			1	1			1	
LSU 4		1	1	1	1	1			
LSU 5									1
LSU 6	1	1		1		1			
LSU 7	1	1		1	1				
LSU 8		1			1			1	
LSU 9	1	1	1			1			
LSU 10	1	1		1	1		1		
LSU 11	1	1			1		1		
LSU 12	1	1							
LSU 13									1
LSU 14									1
LSU 15									1
LSU 16	1	1		1					
LSU 17	1	1	1						
LSU 18	1	1		1					
LSU 19	1	1			1				
LSU 20		1		1					
LSU 21	1	1		1	1			1	
LSU 22	1	1	1	1	1	1	1	1	
LSU 23	1	1		1		1			
LSU 24		1		1	1		1		
LSU 25	1	1		1	1				
LSU 26	1	1		1	1	1	1		
LSU 27	1	1	1	1	1	1	1	1	
LSU 28	1	1		1	1		1	1	

Subsection III (Challenges)

Participants	Stat 1 (F)	Stat 2 (T)	Stat 3 (T)	Stat 4 (T)	Stat 5 (T)	N/A
LSU 1	1		1			
LSU 2			1	1	1	
LSU 3	1		1	1		
LSU 4			1		1	
LSU 5	1			1	1	
LSU 6			1	1	1	
LSU 7			1	1	1	
LSU 8		1				
LSU 9		1	1	1	1	
LSU 10		1	1	1	1	
LSU 11					1	
LSU 12					1	
LSU 13					1	
LSU 14						N/A
LSU 15						N/A
LSU 16		1		1	1	
LSU 17		1		1	1	
LSU 18					1	
LSU 19		1	1		1	
LSU 20			1		1	
LSU 21		1	1	1	1	
LSU 22		1				
LSU 23				1	1	
LSU 24			1			
LSU 25		1			1	
LSU 26		1	1	1	1	
LSU 27		1		1	1	
LSU 28		1	1	1	1	

APPENDIX 7 (Teachers' recommendation)

Participant (code)	Teacher	Recommendations
LSU 1	Regular	N/A
LSU 2	Regular	N/A
LSU 3	Regular	N/A
LSU 4	Regular	N/A
LSU 5	Regular	N/A
LSU 6	Regular	N/A
LSU 7	Regular	N/A
LSU 8	Regular	N/A
LSU 9	Regular	Because I didn't work with children with autism, and I don't know t problems well, I am not able to respond
LSU 10	Regular	N/A
LSU 11	Regular	N/A
LSU 12	Regular	N/A
LSU 13	Regular	N/A
LSU 14	Regular	Class with small number of pupil and personal assistant.
LSU 15	Regular	First, unchangeable setting- fixed class teacher and class room
LSU 16	Regular	N/A
LSU 17	Regular	N/A
LSU 18	Regular	N/A
LSU 19	Regular	N/A
LSU 20	Regular	N/A
LSU 21	Regular	N/A
LSU 22	Regular	N/A
LSU 23	Regular	N/A
LSU 24	Regular	No idea
LSU 25	Regular	N/A
LSU 26	Regular	N/A
LSU 27	Regular	N/A
LSU 28	Regular	I don't know. I don't have any personal experience with a child with autis Perhaps, good approach of a child's environment.
LS A29	Special	N/A
LS A30	Special	More information about autism needed for cooperation and help. Should to understand their world.
LS A31	Special	N/A

Participant (code)	Teacher	Recommendations
LS A32	Special	More information for parents, and mainly teachers who work with children and teach them.
LS A33	Special	I don't have any experience with this problems, however I wish pedagogical who deal with autism success.
LS A34	Special	1. Sufficient number of qualified pedagogical assistants. 2. Availability special pedagogical aids. 3. Schooling of pedagogists about autism. Cooperation of all teachers involved in education and families.
LS A35	Special	At out children's home, one assistant is needed for one child. 2. Availability sufficient number of aids. 3. Schooling about autism available for pedagogists. 4. cooperation with /among all pedagogists involved education and families (school family-home)
LS A36	Special	Mainstreaming of children. 2. contact with peers without autism. 3. contact and cooperation with people without disability.
LS A37	Special	More information
LS A38	Special	More information. 2. Integration of children with autism (mainstreaming).
LS A39	Special	I don't know. I don't have any experience.
LS A40	Special	More information about the problem to put it into consciousness of people.
LS A41	Special	I don't have any experience with children with autism.
LS A42	Special	Assistant required. More information about autism for teachers and parents
LS A43	Special	More information
LS B44	Special	N/A
LS B45	Special	N/A
LS B46	Special	N/A
LS B47	Special	I don't work in this field
LS B48	Special	N/A
LS B49	Special	1. To adjust/ accommodate classrooms, more space, combine/accompany pupils with autism with other pupils, like these with minimal brain dysfunction (ADHD) and hyperactivity. Pupils with behavioral disorders are not adapted and pupils with autism reach toward them uneasily. 2. Solid order and schedule. 3. It is definitely good to integrate pupils with autism, however only when class environment is adapted for them.
LS B50	Special	To abide stereotypes, quiet environment, empathy toward the children.
LS B51	Special	I don't have experience
LS B52	Special	I don't have experience

Participant (code)	Teacher	Recommendations
LS B53	Special	I don't have any experience with this kind of disability
LS B54	Special	I don't have any experience.
LS B55	Special	N/A
LS B56	Special	N/A
LS B57	Special	I don't have any personal experience.
LS B58	Special	I don't have any personal experience.
LS B59	Special	Sorry, I don't have any experience.
LS B60	Special	N/A
LS B61	Special	N/A
LS B62	Special	I don't have any experience with these children.
LS B63	Special	I don't professionally deal with children with autism.
LS B64	Special	Sorry, I don't have any practical experience with these kind of disability
LS B65	Special	No experience
LS B66	Special	1. Personal assistant for a child with autism. 2. Integration/mainstreaming children with autism in classrooms among children without disability.3. Clo cooperation with families. 4. Extension or awareness about autism in ordinary schools, both among pedagogists and pupils (e.g. to inclu knowledge into subjects like civic or family education. 5. More support children with autism from the state government (legislation, financial supp for family).
LS B67	Special	Education of new strategies.
LS B68	Special	N/A
LS B69	Special	N/A
LS B70	Special	Personal assistant
LS B71	Special	N/A
LS B72	Special	More number of assitants are needed
LS B73	Special	N/A
LS B74	Special	N/A
LS B75	Special	Less number of children in classroom.
SK 76	Special	N/A
SK 77	Special	N/A
SK 78	Special	N/A
SK 79	Special	N/A
SK 80	Special	N/A

Participant (code)	Teacher	Recommendations
SSR 81	Special	I have experience only with asperger syndrome. Social interaction was hard to bring and why they should motivate other children, permanently /bring a why they should respect their classmate. 3. appropriate common projects sports activities, competitions, working on grounds, in workshops
SSR 82	Special	Special education support - 1. using structured teaching-visualization and structuralization. 2. functional communication training. 3. individual approach. 4. human, empathetic approach.
SSR 83	Special	More information among non-handicapped can improve social interaction children with autism.
SSR 84	Special	Knowledge about the problem in public. Integration.
SSR 85	Special	Cooperation with a family. Coordination of school and family environment. Structure daily schedule.
SAS 86	Special	Coordination of school and family environment. Structure daily schedule.
SAS 87	Special	Professional individual care/support. Visualization, structuralization, daily mode schedule.
SAS 88	Special	Professional and individual life long care and support (legislation) is missing. Consequential care, employment.
SAS 89	Special	High quality and continuous education of pedagogists in this topic.
SAS 90	Special	Sufficient personal resources i.e. sufficient number of teachers and their appropriate education. Possible financial and material background.